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Original Articles.

THE RELATION BETWEEN PERIPHERAL IRRITATION AND NERVOUS PHENOMENA, WITH SPECIAL REFERENCE TO EYE-STRAIN.[1]

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THE question of the exact relation between peripheral irritation and serious nervous phenomena is not a new one, but has been brought into prominence of late by those who have paid some attention to the study of eye-strain. It is maintained by these recent writers that irritation arises from a lack of balance between the various ocular muscles, and is sufficient to produce serious general nervous manifestations, and even such diseases as epilepsy and chorea. Observations of greater or less degree of reliability have been published in the medical press in support of this statement. And the theories which are propounded upon the basis of these observations gain in interest, because of their direct application to the treatment of nervous affections. In consequence, the advantages of treatment directed to the eye alone in serious nervous diseases are being urged on all sides.

The enthusiasm of the exponents of this method equals that displayed in former years by others who have worked along the same lines. For the supposed importance of peripheral irritation in the production of nervous diseases is not a new proposition. It has been the subject of discussion before. Genital irritation was urged at one time by a distinguished surgeon as a cause of paralysis of the legs, and for a time circumcision was regarded as a preliminary procedure indispensable in the treatment of many nervous diseases, among which infantile paralysis and spastic paraplegia may be named. Later, the influence of congenital stricture of the urethra was brought forward as a cause of many neuroses and of temporary states of nervous excitability. And not long after, the claims of the genital organs of women rose in the estimation of the profession as fertile sources of nervous disease. Recently it has been taught that the peripheral irritation of nasal obstruction is responsible for many respiratory neuroses, of which asthma may be taken as a type, while the ear and its canals, and even the teeth, have not been neglected by those in search of hidden seats of disease. Intestinal irritation by worms, and rectal irritation from fissures and fistulæ, may also be mentioned. But to refer to other sources of peripheral irritation would simply be to enumerate the various organs of the body. It is not strange, therefore, that to the trend of modern fashion certain ophthalmologists should have yielded; and that inasmuch as the exact relation between internal eye-strain and nervous symptoms had long been ascertained, they should have fallen upon external eye-strain as the sole remaining *point d'appui*.

The object of this glance at past investigations is very largely intended, not to throw ridicule on them, but to emphasize the fact, which cannot be denied, that, though each form of peripheral irritation may produce nervous symptoms, no one form has such a special importance as to warrant the extravagant statements made by its earliest supporters. It has been the history of progress in every line of medical research which has been repeated in this particular: First, extravagant assertion, based on hypothesis; then impotent opposition and negation; lastly, calm, judicial conclusion that truth lies in neither extreme.

Let us look, for a moment, at the present position of the profession on the question of phimosis as a cause of nervous disease. It is no longer thought to be a possible cause of true paralysis, either infantile paralysis or spastic paraplegia. It undoubtedly may be a cause of nocturnal incontinence in young children. It is rarely considered as a cause of convulsive disorders. Occasionally a case will be seen in which an irritation arising from the penis is unquestioned. The child has pain on micturition, handles the organ frequently, and suffers from pain when erection occurs. The prepuce is found to be contracted or adherent, or to have beneath it a hard, irritant mass. After this condition has been present for some time, slight spasmodic seizures may appear; or nervous manifestations of a mental kind, irritability of temper, and bursts of rage. The existence of local irritation is known and observed by the parents as well as by the physician, and circumcision cures the nervous symptoms. I have seen only four such cases in the past five years; I have not seen more, though I have records of 3,500 cases of nervous disease. Such cases are not very common—and they are quite characteristic in their form. If the nervous phenomena are mental, they are intermittent; they are not like well-known forms of mental disease, they are rather evidences of extreme irritability of temper than of actual insanity. There is no such thing as intermittent mania occurring in attacks of a few minutes, and followed by perfect sanity without other symptoms. If the nervous manifestations are convulsive, the attacks are again quite different from true epilepsy in their mode of development. It is the rule that such attacks are quite numerous from their very commencement. In one case of my own the child had as many as ten attacks daily within a week of the onset, and sixty attacks daily of slight convulsive seizure resembling *petit mal*, with staggering. In the meantime he was unusually restless and uneasy within one month of the onset. And the importance of this rapid onset of the symptoms cannot be too much exaggerated. For the great variety in the true epileptic seizure makes a diagnosis between reflex convulsions and true epilepsy, from the study of the attack alone, impossible; although I think that in a reflex attack a total loss of consciousness and biting of the tongue are rare, and a subsequent stupor is also rare. But it may be stated with confidence that idiopathic epilepsy develops in a different manner; attacks being at first very far apart, then more and more frequent, but very rarely reaching the frequency of once in two weeks within five years of their commencement. I think it may therefore be safely stated that when genital irritation is a cause of nervous disease in childhood there is evidence of local disease which attracts attention, and the nervous symptoms resulting are characteristic in the rapidity of onset. The same may be truly said of reflex convulsions occurring during teething, or arising from the intestinal irritation of worms. When congenital stricture of the urethra is the source from which irritation arises, some difficulty in micturition, some pain on erection or in intercourse, some local signs of a disorder of the organs is the rule. When these are absent, in a case of nervous

[1] Read before the Section on Neurology, Academy of Medicine, December 13, 1889.

disease, the question of the existence of a stricture near the meatus rarely presents itself to the mind. In other words, when peripheral irritation is the true source of nervous symptoms, nature points to that source by pain or discomfort in the irritated part.

I do not desire to open the question of the possible effects of diseases of the female genital organs in producing nervous symptoms. These were discussed here a year ago by Dr. Peckham. I desire, however, to call attention to the fact that such an operation as cauterization of the clitoris for epilepsy—a well-known form of treatment pursued many years ago, with some apparent success, in England by one man, and not without its defenders at the time upon the Continent—would now be considered malpractice. And I think it may be safely stated that fewer ovariotomies are performed to-day, with a view to the cure of epilepsy, or even of serious forms of hysteria, than were performed ten years ago. Yet this is the epoch of ovariotomy—and the operation is now considered a safer one than ever before. Time has shown that the statements of early enthusiasts have not been substantiated. Personally, I may say that I have seen not a few cases of epilepsy associated with ovarian disease, the attacks being preceded with an aura of pain in the ovarian region, which have *not* been permanently benefited by the removal of the diseased ovaries, and I am quite sure that my experience has been that of other observers.

Dr. William Goodell, of Philadelphia, has recently said: "By a very large number of practitioners, even by specialists working in other fields of medicine, these organs" (the uterus and ovaries) "are too often wrongfully made the scapegoat for headaches and nape-aches, for spine-aches and backaches, for weakness of vision, for aural disturbances, for sore throat and weak lungs, for irritable heart, and also for a host of so-called uterine symptoms. Yet these very symptoms may be due wholly to nerve exhaustion or malnutrition of nerve-centres, and not to reflex action or to direct action from some real or supposed uterine disorder. . . . The abuse of uterine treatment through mistaken diagnosis is, in my opinion, the great medical error of the day" (*Medical News*, December 7, 1889).

It is perhaps too early to make very judicial statements concerning the effect of irritation on the nasal cavity. I have seen in a small boy a case of distinct attacks of great mental irritability, quite similar to those which have been observed during genital irritation, which were apparently due to an hypertrophy of the so-called pharyngeal tonsil, and which ceased when this obstruction to respiration was removed. This boy also suffered from gradually increasing deafness due to the same cause, which was also cured by the operation, and which attracted attention to the seat of irritation. But when the very large number of patients with similar obstruction is considered—obstruction arising from deformities of the nasal septum, from hypertrophy of the turbinated bones, from polypi in the nose, and from other causes, and the great rarity of general nervous symptoms, especially of epileptiform attacks or of chorea in these patients—I think it may be concluded that nasal irritation is a comparatively rare cause of nervous disease, and only acts as a cause in persons of nervous constitution; and in support of this I can refer to the chapter on reflex symptoms in Dr. Bosworth's recent treatise.

Coming now, at last, to the subject of eye-strain, is it not reasonable to believe *à priori*, and judging by analogy, that its importance as a factor in the causation of nervous symptoms has been greatly exaggerated? Let us look at a few facts. Many persons have slight degrees of myopia, hypermetropia, or astigmatism which never attract notice and go for years without producing any apparent inconvenience. If the degree of these defects is more than insignificant, at the age when the eyes begin to be used for reading there appear some symptoms. Either complaint is made of defective vision directly, or slight nervous symptoms, such as headache, appear to follow the continued use of the eyes, with such uniformity that the connection of the symptoms and their cause is evident to the lay mind. There are a few cases recorded in which, in nervous persons, the eye-strain may cause not only headache and smarting and pain in the eyes, but even slight reflex movements of the eyes, such as convulsive winking, or twitching of the head and neck. Two such cases have come under my observation within a year, both of which were materially relieved by the correction of hypermetropia with astigmatism, by Dr. Webster. It will certainly be admitted by all that such errors need to be looked for and corrected. Yet, if the very large percentage of the population who wear glasses is considered, and the very small number of these who have experienced any serious nervous symptoms, such as spasmodic twitching, prior to obtaining glasses, the relative infrequency of severe nervous symptoms, such as chorea, being produced by eye-strain becomes at once evident. I think it may safely be stated that, out of one hundred patients who apply to ophthalmologists to be fitted with glasses, ninety apply because vision is noticed to be defective, or because of such symptoms as headache and vertigo, and not more than ten because of the existence of serious nervous symptoms; and it is well known that those whose vision is defective go, as a rule, directly to opticians, and do not consult a physician at all.

I am not aware that any authority has ever advanced the statement that internal eye-strain is a cause of such serious nervous manifestations as epileptiform attacks. That it is a cause of chorea has been distinctly disproven some years ago by Dr. C. S. Bull. And this fact is to be borne in mind when the question of the influence of external eye-strain is discussed.

Before proceeding, however, to that discussion, let me call attention to a very important fact which has been elicited by a consideration of the various forms of peripheral irritation thus far considered. It is this: That whenever a source of irritation exists, nature points to it by producing sensations of discomfort; and this discomfort is felt in almost every case in the part in which the irritation exists. The eyes, if overstrained, are felt to be weak; the nose, if obstructed, is known to be obstructed because breathing through the mouth becomes habitual, or is produced by the slightest catarrh, and is often noisy; the ovarian symptoms, especially pain, appear before or with the nervous symptoms; the genital irritation is manifested by discomfort which, in those too young to tell of it, leads to handling the organs; the worms lead to fecal impaction, or diarrhœa. We know that pain is only a means of warning and protection offered by nature; a natural sign-post pointed to the physician's door. In pleurisy it insures the immobility of the chest; in sciatica it secures the rest of the limb; in acute rheumatism it prevents motion of the joints. Discomfort is a minor degree of pain, and may be taken similarly as a warning. The fatigue after undue exertion, the exhaustion after mental effort, the malaise of disease, cannot be misinterpreted. Nature is a very safe guide, and is a prompt and efficient adviser.

When peripheral irritation exists sufficient in degree to be in any way injurious, it may be stated, as a rule to which there are only occasional exceptions, that nature points it out by producing a sense of discomfort or of pain in the part irritated.

With these preliminary facts in mind, let us consider the proposition advanced within the past few years, that insufficiency of the ocular muscles is a frequent cause of functional nervous diseases, such as epilepsy and chorea. Certain questions arise in this connection, and require an answer.

1. Are insufficiencies of ocular muscles common?

Anyone familiar with muscular physiology knows that muscular power varies constantly. Effort weakens it when long continued. Rest increases it if moderate in duration. Effort strengthens it when moderate. Too long a rest is followed by atrophy. Thus the daily expe-

rience of life tends to show that the muscular condition varies constantly. And anyone who will test the power of his grasp on a dynamometer three times each morning and evening for a month will be surprised at the variation which is observed.

The smaller the muscle the greater the relative degree of variation. Now, during the past three years I have been constantly testing ocular muscles as to their power, and I have observed, under the same tests in the same individual, at different times, considerable variation. I am sure that practice in overcoming prisms, in learning how to use the muscles voluntarily, is one source of apparent variation. Without using the term "insufficiency," it may be safely stated that the actual power of the ocular muscles varies considerably from time to time. And my observations lead me to believe that there is some relation between the general condition of a patient and the power of these muscles. Neurasthenic patients vary greatly, at times showing relative weakness of different muscles, at times showing none. And when the same patient is tested in different stages of the complaint, muscles at one time weak may be found at other times to be strong, and *vice versa*. And as these patients recover under treatment the general strength and proper balance of their muscles return. What is true of neurasthenic patients is also true of others suffering from functional diseases, such as chorea, epilepsy, migraine, neuralgia. And when, as in epilepsy, the disease is one which directly involves in the attack the ocular muscles, the variation in their equilibrium before and after an attack is often very evident to the tests.

I think it may therefore be said that in normal individuals, and in those affected by functional diseases, the power of the ocular muscles varies considerably from time to time. This does not, however, imply any causal relation to the general condition of the patient.

2. Does a real strain of one or more ocular muscles produce discomfort?

Those who have done much testing with prisms will, I think, admit that continued effort on the part of one or more of the ocular muscles very soon elicits complaint by the patient. Patients very soon acquire the power to so converge or to so diverge the eyes as to overcome the effect of a prism, in looking at an object twenty feet away. Prisms of three or four degrees are easily overcome by the external rectus. Prisms of eight or ten degrees are usually easily overcome by the internal rectus. And I have rarely elicited complaints from patients when the tests were short and stopped here. When, however, stronger prisms were used, and the tests repeated three or four times, the patients would say that the eyes felt strained; or the eyes would begin to water and the patients would be inclined to rub them. In a word, a real strain of an ocular muscle produces discomfort.

3. Do the majority of people with slight ocular insufficiency suffer discomfort?

It is my experience that in the majority of patients with either functional or organic disease who have normal vision, or whose vision has been made normal by glasses, little attention is paid to the eyes. Such patients, if questioned, will say that their eyes are all right. This, of course, should not exempt them from an ophthalmoscopic examination. But if the attention of a neurasthenic or hysterical person is called to the eyes, he may, even when without any actual defect, either of vision or of his muscles, begin to complain of his eyes. It is my experience that unless an extreme degree of ocular insufficiency exists patients do not suffer discomfort. It is also my experience that in functional neuroses of any kind the moment a patient's attention is directed to an organ he becomes conscious of sensations in that organ which may be perfectly natural and yet which he believes to be abnormal. Spontaneous testimony is therefore more valuable than suggested testimony. And from spontaneous testimony I am led to conclude that slight ocular insufficiency, varying from time to time as it naturally does, even in neurasthenic individuals who are extremely sensitive to all discomfort, does not produce discomfort.

In view of the facts already established, that variations in the muscular power are natural and that nature warns us of overexertion in any direction by means of conscious fatigue, it becomes evident that an insufficiency of an ocular muscle incapable of causing discomfort is really a matter of very little importance.

4. May ocular insufficiency produce nervous manifestations?

The review of the subject of peripheral irritation in general has shown that any peripheral irritation of serious nature or long continuance is capable of producing nervous manifestations; and that such irritation, by giving rise to discomfort or pain, is indicated by nature as the cause of the symptoms. I have cited cases of genital, ovarian, and pharyngeal irritation from my own experience. I can also cite a case of true nervous manifestations undoubtedly caused by eye-strain; but it is the only case of the kind which I have seen in the past three years, after a large number of careful examinations. A girl of nervous parentage was found to be suffering from general nervous irritability of a marked kind. She had slight twitchings of her facial muscles, head, and neck, occasional headaches, hyper-excitability of all muscles to percussion, with increase of tendon reflexes, no symptoms of organic disease, but a history of hysterical attacks, occurring at intervals for ten years, occasional motor weakness, and great mental irritability at times, and inability to read and study continuously. All these symptoms were markedly aggravated by any continuous use of the eyes, which soon became blurred and heavy either on reading or on looking at objects at a distance. The power of abduction in the external recti was only five degrees and there was an insufficiency of four degrees of these muscles at twenty feet, while the examination with prisms at once produced the same feelings of discomfort of which she at other times complained. Here was a case, then, in which an insufficiency of considerable degree was present; producing discomfort when the weak muscles were used, and leading, in my opinion, to the nervous excitability and mental irritation to which she was predisposed by her nervous constitution. I therefore referred the case at once to an ophthalmologist for treatment, and received from him a confirmation of my view of the case. I do not know the result.

It is probable that everyone of much experience could duplicate this case; and it proves to me, as such cases have proved to others, that serious muscular insufficiency of the ocular muscles may cause nervous manifestations in a nervous person. But I repeat that in my experience such cases are rare. I have seen but one in three thousand cases of nervous disease.

5. Are such nervous manifestations characteristic?

It has been a matter of dispute whether so-called reflex disturbances are identical with serious nervous diseases—such, for example, as hysteria, chorea, and epilepsy. When any one of these three diseases is studied it becomes evident that a very wide difference is observed in the symptoms of patients suffering from the same affection. The varieties of epileptic attacks are innumerable. The distribution and severity of choreic movements is very various. The forms of hysteria cannot be recorded. To affirm, therefore, that nervous manifestations do or do not belong to one or the other of these diseases by studying the phenomena alone would be impossible. But each of these diseases in turn has a typical course and a general character. And it seems to me that in their course—in their mode and period of appearance, in the frequency of the occurrence of symptoms, in the variation in relation to influences acting upon the patient—the nervous manifestations arising from peripheral irritation are characteristic. So that they need not be identified with the symptoms of these diseases.

I have already alluded to the difference between true insanity, true epilepsy, and reflex neuroses. In regard to

chorea, it seems to me that in true chorea the onset of the motions is more rapid, their situation more definite (general or unilateral, rarely local), the history of infection or fright more decided, and the accompanying anæmia and cardiac complications more uniform than in any of the forms of reflex neurosis which simulate it. It is also natural to believe that the reflex cases readily become chronic unless the cause is removed, and do not yield to arsenical treatment, while in true chorea the influence of this treatment is usually evident by the time physiological effects are produced, and relapses rather than chronicity are the rule. Out of one hundred and twenty cases of chorea of which I have records, but four have been unaffected by arsenic and have become chronic.

It seems to me, therefore, that the nervous manifestations arising from peripheral irritation, when carefully studied, differ from the ordinary neuroses in their history and therefore present features which are characteristic. Reflex neuroses should therefore not be called epilepsy and chorea, even though they may resemble these diseases.

6. Are cases of neuroses due to peripheral irritation common?

This is not to be decided hastily or by any one observer. The specialist is too prone to find his own notions exemplified in his patients. And this question can only be answered by a consensus of opinion. A discussion of this is therefore requested, that numerous opinions may be obtained. In the mass of nervous cases there are doubtless quite a number whose symptoms are reflex in origin. But when the records of other specialists are inquired into, it becomes evident that each observer, working on his particular organ of the body, observes many cases of extreme peripheral irritation in that organ which do not present any nervous phenomena. My impression therefore is that a true reflex neurosis is comparatively rare in relation to the number of patients suffering from peripheral irritation, and also in relation to the number of patients suffering from chorea, epilepsy, and hysteria. If this is so, the question arises whether there is not some hereditary or acquired nervous irritable weakness in the patients thus suffering which must be taken into the account in estimating the cause of their disease and which cannot be reached in treatment by the mere removal of peripheral irritation.

I think it may be safely stated that serious irritations of genital, ovarian, intestinal, nasal, and auditory origin are not very frequently observed in our nervous patients. Hence analogy would suggest that irritations from the eye are equally infrequent, whether of a kind to cause internal or external eye-strain.

The conclusion, therefore, which seems inevitable is that while eye-strain or other peripheral irritation may be an occasional source of nervous manifestations, such as discomfort, headache, nervousness, or, possibly, local twitching of eyes and neck, it is a rare cause of nervous disease, and that the symptoms which it may produce are not to be identified with serious nervous diseases such as epilepsy and chorea. I would class eye-strain either from muscular insufficiency or from errors of refraction with other kinds of peripheral irritation neither more nor less frequent and important. I consider it necessary to ascertain in any case of nervous disease whether any form of peripheral irritation is present. But unless it is serious and has produced discomfort which has been spontaneously observed by the patient, I should not attach much importance to its presence as an etiological factor unless the nervous manifestations were of such a character and mode of development as to point to a peripheral origin. I do not believe that true epilepsy or chorea can be produced by eye-strain or cured by its relief. I am constantly seeing cases in which such treatment has been faithfully pursued and has failed. And I think that the general indiscriminate recommendation of treatment directed to the relief of supposed eye-strain in these diseases will soon come to be recognized as malpractice.

THE AURICULO-VENTRICULAR (PRESYSTOLIC) SOUND. SOME CONSIDERATIONS ON CARDIAC DISEASE IN EARLY LIFE.[1]

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I. THE AURICULO-VENTRICULAR (PRESYSTOLIC) SOUND.—The presystolic, auriculo-systolic, or auriculo-ventricular murmur has been a subject of much discussion and acrid controversy. Gendrin in 1841 called attention to a presystolic murmur, and Fauvel in 1843 considered it to be due to mitral obstruction. This view seems to have been accepted at the time, but some years later Dr. Barclay advanced the idea that a mitral obstructive murmur had no existence in fact, the sound usually attributed to this condition being really due to regurgitation. This dispute has recently been renewed in the columns of *The Lancet* (1887) by Dr. Dickinson, who denies that the so-called presystolic murmur is indicative of mitral stenosis. He regards the murmur as covering the first portion of the systole up to the point of closure of the valve, and names it rather an early systolic murmur. Gairdner, Balfour, Bristowe, and others have vigorously replied. Dr. Bristowe has summed up the arguments in favor of the presystolic nature of the murmur as follows: (1) It accords with the physiological fact of the auricular contraction running into the ventricular systole, the beginning of which is indicated by the very sound that terminates the murmur; (2) the murmur precedes the pulse, and ends with the apex-beat; (3) the presystolic murmur does not differ in quality from the earlier mitral murmurs which are acknowledged to be direct; (4) all the direct mitral murmurs are characterized by consonatal noisiness and lack of penetrating power, and are audible over a curiously restricted area, but are not conveyed into the axilla, as all regurgitant murmurs are. Finally, post-mortem examination not infrequently reveals a condition of stenosis of the mitral valve. The conclusions of this paper are derived from clinical studies alone, and hence must be taken for what they are worth. A presystolic or auriculo-ventricular sound is produced by some interference with the normal and easy passage of blood through the auriculo-ventricular septum or valve. The murmur is rough in quality, beginning at the end of diastole and ending abruptly with the systole. In rhythm, it may hence be considered post-diastolic as well as presystolic. One of the most characteristic points about this murmur is its abrupt termination. This quick stop of the abnormal bruit is very different from the gradual ending of mitral regurgitation. All the authorities I have been able to consult consider that the presystolic murmur is invariably due to organic disease at the mitral valve. There is a class of cases, however, in which this sound is distinctly heard, that I believe are entirely free from organic heart disease. Reference is here made to growing children, especially girls, who are pale and hydræmic, and suffer from various digestive disturbances. These cases are not only subject to palpitation of the heart, but, at times, especially after exercise, a more or less rough presystolic murmur may be heard at the apex. Many of these children have been confined for a long time in crowded or badly ventilated school-rooms. Possibly they are over-ambitious in their studies, but, at any rate, are in a condition of defective nervous equilibrium. Under treatment by iron, cod-liver oil, nutritious and easily digested food, with plenty of fresh air, the abnormal heart-sound will often disappear. It has seemed to me that the trouble in these cases is due to an irregular muscular action, dependent upon a defective innervation of the heart. Weak children have an especial tendency to a faulty, over-irritable action of the muscles, both voluntary and involuntary. This may be shown only by incontinence of urine, or by

[1] Read before the Section on Practice of Medicine, New York Academy of Medicine, November, 1889.

twitching of certain muscles of the face, or it may eventuate in general chorea. Why may not the innervation of the heart be affected, with or without any of the disturbances just mentioned? In such a case an irritable, strongly acting auricle, with a mitral valve whose muscular fasciculi are too tense, might be a cause of a blubbering sound just before the systole. The sound produced by any such irregular muscular action would be intensified by the watery condition of the blood.

Undoubtedly a large proportion of cases of the presystolic murmur are due to organic valvular trouble. I have histories of forty cases, that I have been able to keep under observation for different intervals of time, varying from a few weeks to several years. The longest case has been eight years, during which time not a single cardiac symptom has been manifested. My youngest case was two years; next, 1 at seven, 4 at eight, 4 at nine, 2 at ten, 5 at eleven, 4 at twelve, 4 at thirteen, 6 at fourteen, 2 at fifteen, 2 at sixteen years, and 5 at later periods of life. I believe this murmur is exceedingly frequent in early life. My observation is based upon a much larger number of cases than those just quoted, which, of course, are too few for generalization. Meigs and Pepper state that mitral obstruction is comparatively frequent in childhood. Goodheart considers that in very young children this lesion is almost unknown, but begins to be noted in children of eight or nine years, and after this becomes common as years advance, until, finally, it is one of the commonest affections of adult life. Eustace Smith, on the contrary, considers that stenosis of the mitral orifice, unaccompanied by insufficiency of the valve, is not common in the child.

In 31 of my cases there was simple mitral obstruction, while in 9 cases there were combined murmurs. Of the latter, 5 were double mitral, 3 were double aortic and double mitral, and 1 was a combined mitral and pulmonic obstructive murmur. The negative symptoms so frequently accompanying slight degrees of mitral obstruction doubtless lead many physicians to occasionally overlook the murmur. The commonest symptoms that I have noted are varying degrees of pain, and dyspnœa on exertion. The pain is usually referred directly to the region of the heart. In 16 of the cases of simple mitral obstruction pain was an important symptom. Upon running upstairs, or any similar violent exercise that caused a rapid action of the heart, this pain would ensue with more or less severity. It seemed as if the laboring of the heart to pass the blood quickly through the partially constricted auriculo-ventricular septum must produce a neuralgia in some of the adjacent nerves. Dyspnœa was very rarely severe, but in a large proportion of cases it was noticeable upon exertion, both by patient and family. A slight, dry cough was more or less frequent, and bronchitis was readily contracted and not very amenable to treatment. In the absence of marked symptoms, referable directly to the circulatory and respiratory organs, we must frequently look rather to the general condition of the child to observe the effects of mitral obstruction. An imperfect nutrition and absence of vigorous growth may not infrequently be the sole apparent result of imperfect cardiac function in early life. Most of my cases showed a lack of vigorous vitality, and a poor nutrition. I believe a careful examination of the heart will explain a certain proportion of cases of obscure developmental trouble and poor vitality in children, that cannot otherwise be accounted for.

The connection of this murmur with rheumatism is an interesting subject for consideration. Out of 31 cases of mitral obstruction, 20 presented evidences of rheumatic taint, as follows: In 6 cases there was a history of rheumatism in the immediate family, but none in the patient; in 4 cases there was rheumatism in the family, and the child had likewise been attacked, while 10 cases gave a history of rheumatism only in the patient examined. Of the combined murmurs, 3 had had rheumatism, and 1 chorea but no rheumatism. It is now well known that the symptoms of rheumatism in early life are milder and in every way less pronounced than in the same affection of later years. There is frequently no appreciable redness or swelling of any joint. Rheumatic pains, however, go from one joint to another, or from one set of muscles to another, existing independently of any such factors as injury or over-exercise, which must be eliminated before making a diagnosis. In using all the care possible, there will be a certain class of cases in which it is exceedingly difficult to say whether obscure wandering pains are rheumatic or not. A careful examination of the heart may sometimes convince us that some uncertain pains have really been due to a rheumatic taint. Most of my cases of mitral obstruction have been preceded by a rheumatic manifestation that has been mild even for children. In this respect I can confirm the observation of Sansom that mitral stenosis is not independent of rheumatism, but is associated with the less pronounced forms of it—with its insidious, and not, so to speak, with its explosive varieties. He quotes the records of the London Hospital for 1880, which showed, while only fifty-eight per cent. of the cases of mitral stenosis presented a history of rheumatism, that seventy-seven per cent. of the cases of mitral regurgitation were rheumatic. The same author considers that an endocarditis, sometimes accompanying a rheumatism without pronounced phenomena, may be manifested by no subjective symptom, and yet differ in no essential feature from that which occurs in obvious relation with rheumatism. "The endocarditis which results in mitral regurgitation is more violent, so to speak, whilst that which initiates stenosis is more protracted, giving rise to a slower formation of fibrous, quasi-cicatricial tissue that under the even pressure of blood in the auricle tends to form the smooth septum which has erroneously suggested a possible congenital causation." In 1886 I read before this Academy the conclusions based upon a study of 76 cases of rheumatism in children, of which 26 had valvular disease of the heart. Of these 26 cases, 18 had mitral regurgitant murmurs, while only 4 presented evidences of mitral obstruction, combined in 3 cases with other murmurs. These murmurs, however, were only considered in reference to cases in which the history of rheumatism was undoubted, being tabulated in connection with studies in rheumatism. I find, on the contrary, that when studying 31 cases of uncombined mitral stenosis, in 17 cases the vague pains were sufficiently repeated and suspicious to warrant my ascribing them to a rheumatic taint. Sajous (1888) quotes the opinion of Duroziez, Landouzy, and Schnell in favor of the frequent idiopathic origin of mitral stenosis, and, when pure and simple, it is found almost exclusively in women and children. In two cases, I have thought the presystolic murmur could be explained by aortic regurgitation, the mitral curtains being floated out by the return current and hence producing an obstruction to the mitral direct current, as explained by Flint. Goodheart advances an idea which, while difficult to prove, appears somewhat plausible. He queries whether the mitral regurgitation of infancy and early childhood, when recognized and carefully tended, may not in time eventuate in mitral stenosis. The mitral inflammation, which at its outset produced incompetence, by contraction and cicatrization may culminate in a final contraction of the orifice.

In making a diagnosis of the mitral direct murmur, it is well to remember that it varies according to the action of the heart. Walshe states that he has known the murmur to come and go from day to day, probably from a varying force of the heart's action, in a case where the mitral orifice was very greatly contracted and rigid. Sansom says most observers will agree that in some cases the presystolic murmur is extremely variable; it may be inaudible during repose, and yet very evident when the patient is made to manifest some slight exertion. It is my custom to have the patient jump up and down in a vigorous manner before auscultation in any suspected

case. Two of my patients with undoubted mitral stenosis have been accepted as first-class risks by insurance examiners, who, I think, would have given a different report had they taken this precaution. When the heart is acting quietly, not only may this murmur be indistinct, but the accentuation of the pulmonic second sound is not so noticeable. In some cases, by gently pressing the hand over the heart, a rolling, vermicular action is noticed, due to the slight delay and resistance to the passage of blood from auricle to ventricle. The well-known "purring thrill" can usually be distinctly noted. The existence of præcordial pain and dyspnœa on exertion will afford corroborative aids to diagnosis.

If we regard the prognosis of mitral stenosis from a theoretical stand-point, it will not be good, owing to the comparatively limited compensation that is possible. As a matter of fact, however, I believe the prognosis to be favorable. A large proportion of the cases will present very few grave symptoms, and some none at all. A very loud presystolic murmur exists in a young man, twenty-five years of age, whom I have watched for the past eight years. During this time he has not had a symptom that would appear to be referable to this lesion, although he plays tennis and engages in other active sports. I believe this form of valvular trouble is most apt to be overlooked; doubtless many persons who are not suspected of cardiac disease have some degree of mitral stenosis. The only instances of death I have known have had regurgitation combined with the stenosis, but most of my cases have been in early life, when death from any form of cardiac disease is not common. One boy, seven years of age, with marked cyanosis from birth, bulbous fingers, intense dyspnœa, pain over the heart, expectoration of blood, and blue mucous membranes, was evidently suffering from a congenital lesion of the heart, the only physical sign of which was a mitral obstructive murmur. Such cases are rare, and the prognosis is, of course, very bad. If we can follow a case of mitral stenosis for a reasonable length of time and observe that the action of the heart is not embarrassed, and the patient suffers from little or no inconvenience, I believe the prognosis to be exceedingly good, even although the murmur persists. Treatment of any kind may be unnecessary. The use of general hygienic measures, with an occasional tonic, will sometimes be required. Some oversight should be kept over these cases and the indications met as they arise, just as in any other form of cardiac trouble.

II. Some Considerations on Cardiac Disease in Early Life.—It is frequently the experience of physicians to be called upon to treat cases of valvular disease of the heart, when it is impossible to trace back to the inception of the disease. The patient may not be able to give a history either of rheumatism or endocarditis, and seeks advice for dyspnœa, swelling of the extremities, or other symptoms of failing circulation. I believe a large proportion of the cases of valvular disease in the adult have begun in childhood. The first beginning of the trouble, which is the period for hopeful treatment, is not recognized. The nature of the rheumatism that attacks children is often obscure, and several attacks of wandering or so-called "growing pains" may be overlooked. While the heart may be the first structure attacked by rheumatism, this is not the common order of events. In most of the histories of valvular disease in children that I have taken, the cardiac affection seemed to come on after several attacks of rheumatism. Great care should be exercised to make an early diagnosis, and vigorous measures be taken to combat the first manifestations of rheumatism in children, fearful that, although the heart may escape the first mild attacks, it may suddenly and unexpectedly become affected by an equally light manifestation of the disease. When endocarditis ensues, the symptoms are apt to be very obscure. Palpitation, slight pain, and breathlessness, with a dry cough, may not be particularly noticed by parents, although the child seems sicker than before. These cases are brought to the dispensaries, and the mother is quite surprised to learn that her child has beginning heart disease. Just at this juncture rest is indicated above all things. If this is not procured, the delicate, softened heart-muscle quickly undergoes dilatation, followed by permanent damage to the valves. Dilatation very readily takes place in the young subject. Compensation, however, quickly and completely ensues from hypertrophy, and there may be no sign, until years later, that great damage has been effected. But can no effort be made to avoid permanent lesion? By recognizing the endocarditis at the start, and keeping the child quiet, in bed if possible, we may seek to avoid dilatation and consecutive crippling of the valves. I have recently had a case under observation showing how this may sometimes be accomplished. A child, three years of age, was sent to the Babies' Ward, complaining of pains in his knees and ankles, with a slight cough, much dyspnœa, and distressed look in his countenance. He breathed with a good deal of distress, and auscultation revealed a loud systolic bruit. There was some swelling of the joints, but the rheumatism yielded to treatment, leaving a mitral systolic murmur, heard at the apex and transmitted around to the angle of the scapula. Great effort was made to keep the child quiet, with every facility in the way of nurses, amusement, and good discipline. He spent most of his time semi-reclining in a steamer-chair. At the end of a month the murmur was distinct but not so loud, and when two months had elapsed it had entirely disappeared. If it is true that endocarditis will not always nor necessarily eventuate in valvular disease, it is certainly a clear indication to do all in our power to avoid dilatation, and hence increase the chances of such a desirable result. After the immediate symptoms of endocarditis have passed, children are too often allowed to play about and take part in all kinds of vigorous exercises, as if nothing amiss had happened.

The perfect compensation usually occurring in childhood prevents many of the symptoms of circulatory disturbance seen in later life. Their vascular system is likewise healthy and elastic, which facilitates the work of the heart. As patients grow older, vascular changes ensue, which increase the strain upon a heart already crippled. I watched a boy for five years, having a double aortic and double mitral murmur, with great hypertrophy, who never appeared in the least incommoded by these grave lesions. He died from drowning while trying to swim against a swift current. In many of these cases, however, there is a faulty nutrition with more or less profound anæmia. The patients must be kept under observation, and the blood maintained in a good condition by a generous diet, iron, and cod-liver oil. We may hope in some cases, where the lesion is not extensive, that with an improved condition of the blood and healthy growth the heart may recover itself. Eustace Smith states that heart murmurs in children not uncommonly disappear; not only recent, soft murmurs, such as are heard in cases of chorea or acute rheumatism, but also louder and harsher murmurs, which are known to be of longer duration. If there is no hypertrophy of the left ventricle, it is not probable that any serious valvular defect is present.

27 West Fifty-first Street.

Voice Lozenge.—Dr. Hinkle recommends the following formula as the best for a "voice lozenge" in the ordinary hoarseness of singers and speakers. A small piece should be allowed to dissolve in the mouth just before using the voice:

Cubebs	½ grain.
Benzoic acid	½ "
Hydrochlorate of cocaine	¼ "
Powdered tragacanth	½ "
Extract of liquorice	5 grains.
Sugar	13 "
Eucalyptol	½ minim
Oil of anise	½ "

Black currant paste, enough to make 20 grains.

—*Chemist and Druggist.*

WHAT REAL VALUE HAVE NATURAL MINERAL WATERS IN THE TREATMENT OF DISEASES OF THE SKIN.[1]

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POPULAR impressions and verdicts have always a certain measure of fact and reason for their base, however far from exact truth they may be, and however exaggerated may be the deductions therefrom. In no practical line is this exemplified more strongly than in regard to the use of natural mineral waters in drinking and bathing for diseases of the skin.

It would seem most natural and proper that nature's remedy, supplied so bountifully in many and diverse portions of the earth, should be effective in relieving the ills of mankind; and what class of affections would be more naturally benefited by it than those of the skin? Some of these are known and popularly recognized to be local and contagious, and might be reasonably supposed to be curable by proper baths; while others are regarded as constitutional, and therefore should be benefited by the internal use of nature's remedy, which, being taken into the system, must act in some way to wash out or "purify the blood." The logic is natural and conclusive, and, as we know, has some measure of basis on facts.

Therefore, from the earliest times we find that the various medicinal springs of the world have been resorted to by multitudes, suffering from many different diseases, and we know that the impression has become exceedingly prevalent, both among the laity and the medical profession, that mineral waters, used both in bathing and drinking, are "very good for diseases of the skin." It cannot be denied, moreover, that a certain proportion, although it is small, of the great number of persons afflicted with cutaneous affections, may and do receive more or less benefit by the proper employment of this form of medication. But, on the other hand, anyone who has seen much of dermatological practice must have experienced disappointment time and again in the results obtained, or not obtained, from visits to mineral springs by patients who had made the trial either on his advice or on the recommendations of others; furthermore, the time and money which have been wasted, and often worse than wasted, by thousands of sufferers seeking relief in this direction can hardly be imagined, while the bitter disappointments endured in these fruitless and expensive experiments by those who have been lured on by laudatory circulars and advertisements would be heartrending to relate.

What, then, is the cause of the numberless failures to get relief from this supposed valuable means of treatment, and what, if any, is the solution of the difficulty? Is it a delusion to suppose that there are virtues in the medicated waters which nature provides with such a lavish hand in all quarters of the globe? or does the fault lie only in our failure to apply them scientifically and successfully?

The subject of the various mineral springs which may at times be of service, and their proper use in diseases of the skin, is a very large one, and cannot, of course, be compassed in an essay such as the present. But it has occurred to me that a brief presentation of some of the aspects of the case might open the subject for discussion, and might, perhaps, result in a more intelligent and consequently more successful employment of some, at least, of those waters which are better known.

It is needless in this presence to speak of the necessity for accurate diagnosis, and the intelligent direction of the proper disease to the special water, for all here recognize that only thus can any satisfactory results be possibly attained. For a patient with some affection of the skin to wander aimlessly to one and another mineral spring, at the suggestion of friends or those unacquainted with his special malady, and to use the waters according to the dictates of whim or fashion, is as useless or harmful as for one to enter a drug store and act in a similar manner. Definite and correct ideas must, therefore, prevail in regard to the relative and peculiar value of various springs and classes of springs in different affections, and to this end more reliable data must be collected and utilized than now exist, before we can speak as confidently as we could desire in regard to the probable advantage to be derived in many skin affections from the use of mineral waters. It behooves all of us to collect facts bearing in the direction of the effect of mineral waters in diseases of the skin, for mutual aid, and for that of the public; for most of the information now accessible on the subject comes directly or indirectly from those more or less interested, financially or otherwise, in one or another special spring. The history of the rise and decline in popularity of some springs, such for instance as the Missisquoi, once celebrated for cancer, would be an interesting chapter to write, were it not that it would be the sad record of the blighted hopes and wasted funds of thousands, who travelled long distances only to find the promised cure even farther off than before.

A certain amount of benefit comes to many individuals, and to their diseases, whatever they may be, from a visit to and sojourn at a great variety of mineral springs; this benefit and improvement is often attributed to the water alone, when that is but one of many elements contributing to the result. Hope and faith are, without question, elements which unconsciously enter into the actual result obtained under any plan of treatment; the influence of the mind on the body has been proven in many ways and accepted, especially since the subject has been so well worked out by Tuke, and this element operates largely in many cases when trips are made to mineral springs on the assurance of friends or physicians that benefit will result.

But there are also a number of other elements to be taken into consideration, as contributing to any improvement attending treatment at mineral springs, which should never be forgotten. Change of air and climate are often of themselves productive of much good, while the change of scene, rest from ordinary occupations, and the energy given to effect a cure, often contribute not a little to the good result; and, finally, an altered dietary may also be an element of importance.

An additional reason, accounting, in part, for the greater improvement often resulting from visits to mineral springs abroad than follows treatment at those in this country (which may be similar, and of even greater real value), is found in the more intelligent use of the waters at the former, and the stricter obedience to the directions of physicians there; they also are apt to prescribe more rigid modes of life, and more regular and systematic use of the waters, than is often the case in this country. At most of the springs abroad there are resident physicians, who have, in many cases, spent years in the study and use of the mineral waters, and are consequently quite able to prescribe them in a manner to produce the best possible results. Whereas in this country, with few exceptions, the springs are not so provided with medical advisors, or, very frequently, if there is a resident physician he is a novice, who in reality has relatively little practical knowledge of the use of the particular water under consideration. It has also been my experience to find that very many patients who have visited mineral springs in this country have employed the waters without accurate medical directions; indeed, most of them never consult any physician in the place, but use the waters either according to some plan of their own, or as recommended by friends, or they follow the custom of the spring, guided by the attendants who have charge of the baths or drinking fountains. Could anything be more crude and ill-advised? and need we be surprised that the wonderful

[1] Read before the American Dermatological Society, at the thirteenth annual meeting, Newport, September 18, 1889.

combinations of remedies, compounded in the bowels of the earth, should not be found more efficacious than they commonly are in relieving human sickness and suffering? There is certainly need for more accurate knowledge of the properties and effects of our mineral springs, and of the manner in which the best results can be obtained, that we may give specific directions, if we would secure the best results attainable. For many years I have endeavored to visit some of the springs of this country or Europe each summer, to observe their practical workings, and I make it a practice to lay out the course of treatment for my patients who visit them, either from personal knowledge or from that obtained from reliable sources; which course is to be followed unless otherwise directed by some physician consulted at the spring.

Still another element calculated to disturb our judgment as to the real value of mineral springs in the treatment of diseases of the skin, is found in the character of the adjuvant treatment by drugs, often given at the same time, either by the physicians at the springs or taken independently. A striking illustration of this is found in the well-known heroic treatment constantly employed for syphilis at the Hot Springs of Arkansas, Aix-la-Chapelle, and other places. There are few, if any, of us, who do not believe that, if the same courses of treatment, or better ones, were as diligently followed elsewhere away from the springs, with an equally free use of common water in drinking and bathing, together with a correct and even mode of life, and the avoidance of stimulants, there are few, I say, who have experience in this line, who do not believe that many, if not all the cases would do equally well, or better, and at a very much less expenditure of time and money.

But in spite of all the negative, or even antagonistic, considerations which have been mentioned, all of us must acknowledge that mineral springs are of service in a certain small proportion of cases, and may at times, if properly employed, prove of much service in conjunction with other measures in the management of diseases of the skin.

Without now entering upon the varieties of mineral waters, whether hot or cold, neutral, saline, alkaline, calcic, purgative, or containing ingredients supposed to be specially active, such as lithia, sulphur, iron, alum, arsenic, bromine, iodine, chlorine, etc., and their special applications, let us first briefly consider some general points in connection with the subject, relating to their *modus operandi*, in order to see in what manner we might reasonably expect them to be of service in diseases of the skin.

It is a little difficult to distinguish the effects of waters taken internally and those used in bathing, where both are employed; but for the purpose of study we will consider first rather the internal effects, referring later to those to be expected from bathing.

It is first to be noticed that we find the same water acting very differently in different persons, even with the same diseases, and also, that we frequently find the same disease benefited by the use of various mineral waters of quite diverse characters. Indeed, it is often the practice for patients to try one mineral spring after another, until one is found which is of special service—or, as is more commonly the case, until they find that all fail to give relief—when the patient is often at last more benefited, or cured, by intelligent and adequate medical skill secured elsewhere.

There is one ingredient which belongs to all medicinal springs, namely, the water itself, which contains the mineral ingredients, and this is the element which, in reality, contributes most to the cure. This is shown to be true by the results often following hydropathic treatment of various kinds, where the water employed is not supposed to be medicinal, but simply the ordinary, pure water used for household purposes. It is also seen in the well-recognized beneficial effects often following the free use of plain hot water taken internally, as has been practised so freely of late years that it has become almost a fashion. The same results are seen to follow visits to such springs as the Poland and Bethesda, which are known to be simply very pure and entirely neutral waters, and in which no mineral constituents are claimed. So that in estimating the effects of a mineral water, we must recognize that the increased amount of fluid taken by the patient is a very important element in the case, and if a visit to some springs will result in the washing out of the system by a freer flow of water through the emunctories, we could readily expect benefit in a certain class of cases characterized by sluggish bowel, kidney, or skin action.

The mineral ingredients undoubtedly contribute somewhat to the result in many cases, but, as remarked before, the variety of springs which are oftentimes serviceable in the same disease is so great, that it is very difficult to determine just which ingredient contributes most to the result. From some waters there is, of course, a pronounced bowel action; others act more freely on the kidneys; many seem only valuable in reference to their alkalinizing action on the blood; others, such as Carlsbad and Vichy, appear to have a specific action on the liver; few seem to have marked action on the skin as an organ, and we all must agree that very few have been proved to have any very decided curative effects on diseased skin.

I know that this last statement may excite some criticism, especially from those interested in certain special springs, and may be at variance with the statements published in various circulars of places of resort; but from a very considerable experience, both with large numbers of patients who have been to various springs, and from personal visits to many spas in this country and abroad, I am forced to state my conviction, or rather conclusion, that a very large share of mineral waters fail to confirm the hopes raised, and rarely cure conditions which are not remediable by ordinary, or extraordinary, medical treatment.

It may here be remarked, however, that it is not always, or often, possible to judge of the anticipated action of a mineral water from the chemical analysis commonly furnished, although some knowledge of its virtues may be thus learned. There is undoubtedly some additional effect produced by the compound as it is furnished fresh from nature's laboratory, and the combination of its many ingredients, which is different from that obtained from the same ingredients when artificially prepared; also, mineral waters act somewhat differently when taken fresh as they issue from the ground, with the nascent sulphurous or carbonic acid gases contained, than they do when preserved and transported long distances. A striking illustration of the difference between natural waters, as employed at the spring and when used elsewhere, is found in Vichy water; this is largely used for bathing at the spring, and is drank also warm or hot, as it issues from the ground, but elsewhere it is almost universally drank cold, and even with ice; Carlsbad, Kissingen, and other waters are also used hot at the springs, but generally cold elsewhere.

What are the benefits to be derived from those mineral waters containing special ingredients, so often lauded for the cure of diseases of the skin? such are those containing lithia, iron, sulphur, alum, arsenic, bromine, iodine, chlorine, etc.? I fear that others will only echo my experience, that in practice they are found so often to fail that no great dependence is to be placed on them. Where these ingredients are specially indicated by the condition of any particular patient, they may do a measure of good to an eruption, but either the dosage is too small and uncertain, or the treatment is carried out for too brief a time in many cases, or, for some reason or other, careful medical observation finds that in a large share of cases the results generally obtained are unsatisfactory, or at least the record is negative.

Iron springs undoubtedly serve an excellent purpose in many cases, and color and strength are often obtained from such springs as Schwalbach and Pyrmont abroad, and the Red Spring at Saratoga and the Oak Orchard Acid Springs; and undoubtedly in certain cases some cutaneous lesions, dependent upon debility, will improve, or even disappear under their use.

Waters containing arsenic have been supposed to be of special service in diseases of the skin, but I have not found, however, the benefit from them, especially those of Bourboule, which I had hoped; I cannot speak from much personal experience in regard to those containing bromine, iodine, or chlorine. In certain cases of eczema, exhibiting an especially marked catarrhal type, the Rockbridge alum water seems to exert a decidedly beneficial effect.

But the mineral waters which are popularly credited with being of the greatest value in skin affections are those containing sulphur in greater or less quantity; of these Richfield, Sharon, Avon, and the Virginia White Sulphur may be taken as the types in this country, and Aix-la-Chapelle and Barèges as representative ones abroad. All of us must have seen dozens of cases with various eruptions who have tried these in vain, and I doubt if many have been seen who had received much or very permanent benefit from them. This need not surprise us, for all recognize how very little effect sulphur, taken internally, has on this class of affections, in spite of popular impression to the contrary. Where there is a rheumatic element back of the cutaneous disease these sulphur springs effect some amelioration, but in a large share of cases it is safe to say that the results produced are largely those obtained by the amount of water passing through the system, and by the alkaline salts contained in the water—the sulphur counting for little or nothing.

While the internal use of mineral waters does not appear to yield the results hoped for in diseases of the skin, the free and proper external employment of some of them, combined often with their more or less free internal use, will sometimes prove efficient aids in the management of some forms of cutaneous disease.

A certain number of cutaneous lesions are local in character, in others a local element preponderates over the internal cause, while in most, if not all, instances there is a greater or less derangement of the action of the skin as an organ; all of these conditions may be benefited by local treatment, and in many of them the proper use of bathing commonly plays an important part. It would, therefore, seem likely that the proper mineral water, rightly used, would be of service—and so it is found to be, occasionally.

But here again, as commonly employed, we are met with the difficulty that the mineral waters are so frequently used without discretion, both as to the particular spring visited and the variety and stage of the disease treated; we also find great errors committed in regard to the frequency, mode, and duration of bathing, together with the proper after-treatment of the skin, both as to drying and friction, and also adjuvant measures. How necessary do we all find it that the minutiæ of directions should be most carefully carried out, in order to effect the best results with local treatment in diseases of the skin; and yet, as commonly practised, the bathing at health-resorts is often or generally performed in a routine and crude manner, while little or no attention is given to the suitability of the process to particular cases. How frequently do we find harm even done by a vigorous course of bathing, as administered at some mineral springs. If we would get favorable results, this class of remedy must be more intelligently employed, and that can only be obtained by personal attention, with knowledge of the springs employed. So that in the external use of mineral waters, no less than in their internal administration, there is no high-road to their universal employment; to be of service they must be prescribed and used accurately, as are other remedial agents.

While patients with almost any affection of the skin may at times seek relief at mineral springs, there are comparatively few diseases which are practically found among those frequenting them. These may be named, in the order of their probable frequency at the springs, as follows: Eczema, psoriasis, syphilis, acne, chronic urticaria, lichen planus, lupus, scabies, ichthyosis, pruritus, and prurigo.

The great mass of those seeking relief are undoubtedly eczema patients. And I think I see less benefit to this disease from the indiscriminate use of mineral waters, and, on the other hand, more benefit from their judicious and properly regulated employment, than in any other affection of the skin; but in very many of these patients this plan of treatment forms but a very small, and often insignificant, part in the entire management of the complaint, and that commonly toward the close of the case.

By far the larger part of cases of eczema receive most benefit from alkaline and moderately purgative mineral waters, early in the season, followed by a tonic spring for a short period later. Vichy, or Marienbad, or Ems, abroad, for three to six weeks, followed by two or three weeks at Schwalbach, or Royat, will often accomplish considerable for cases of chronic eczema. Carlsbad is sometimes required when there is much abdominal plethora. In this country I make considerable use of the White Sulphur Spring, followed by the Old Sweet, in Virginia, or I employ the laxative water of Saratoga, with the Red Spring later. In very chronic cases, with gouty elements, the Hot Springs of Virginia serve a good purpose. Harrowgate, in England, occasionally proves very effective. But in eczema great care must be exercised lest the spring treatment excites acute eruption, for some of my worst cases of general eczema have been those evidently produced by a course of treatment at a medicinal spring; under its use a small amount of chronic eruption has been lighted up into a general and most severe eczema, covering a very large surface.

Psoriasis, as we know, is a most rebellious disease, and mineral waters have comparatively little permanent effect upon it, although in many cases they serve an excellent temporary purpose, and are sometimes even of some lasting value. The sulphur waters yield the best results, and occasionally the arsenical water of Bourboule, used at the spring in bathing as well as drinking, will accomplish much. The Hot Springs of Virginia or Arkansas seem to have little if any effect on the disease. In many cases of psoriasis free sea-bathing will prove far more beneficial than the treatment of any mineral spring.

Patients with syphilis frequently visit mineral springs, but, as we all know, with little if any benefit, unless active medical treatment is carried on at the same time. The subject has been already alluded to.

Acne will often be benefited very considerably by visits at proper mineral springs, though in a large share of instances, as ordinarily employed, these are of very little value. The sulphur waters seem to have relatively little good effect, except as they may act as purgatives and serve to increase the urinary secretions. The iron springs are more commonly of service, also mildly alkaline springs, which affect favorably the digestive organs, such as the Allegheny Springs in the Cumberland Mountains, Missisquoi Springs in Vermont, and Poland Springs in Maine.

I will not take further time to speak of other less common affections, for which mineral waters may be of more or less service, as it would be difficult, indeed, within the limits of a short paper to do the matter justice. The general subject touched upon is a very large one, and I do not think to have at all compassed it, much less to have presented any proportion of the facts possible, concerning the real value of mineral waters in diseases of the skin.

The object of this paper, as before stated, is rather to elicit discussion and to open the way at a future time, perhaps, for a more elaborate consideration of the subject; for it is one in which we all, as the curers of disease, should have the greatest interest, but one which I do not recollect to have seen considered in this manner in print.

I have called attention to the fact that mineral waters, whether used internally or externally, or combined, are able in but relatively few instances to cure diseases of the skin; what, then, are their real value in the practice of

dermatology? I will answer briefly, that in a not inconsiderable proportion of cases they may, if used wisely, afford us a greater or less assistance as adjuvants, mainly at a season of the year when our patients are apt to be away from our personal supervision more or less, in order to seek change of scene and air in the pursuit of health and happiness. During these summer vacations our patients not infrequently, from fancy, fashion, or folly, go to places and localities, and indulge in pleasures and occupations which act prejudicially, and to a greater or less degree undo the good already obtained by previous treatment; or it often happens that during this period they often neglect the routine of treatment which they had previously followed, and suffer proportionately therefrom.

It is, therefore, at this time that proper treatment at mineral springs will often come to our aid, and, if judiciously selected and faithfully carried out, this means of cure adds its mite, little or great, to what we have already accomplished; for this reason I have thought it best, at the present time, to direct your attention to the subject which has been thus imperfectly considered.

4 East Thirty-seventh Street.

Clinical Department.

AN EARLY CASE OF INFLUENZA.

By JULIUS SOLOWEITSCHYK, M.D.,

NEW YORK.

The case which I have to report first came under my care on December 5th, but as there were no similar cases in the same house or in the neighborhood I did not regard it as one of epidemic disease, and in consequence did not report it to the Board of Health. At the time that the first suspicious cases were reported my patient was so far on the road to convalescence that the characteristic symptoms had disappeared. Now that the patient is well, as I look back and observe with care the entire course of the disease, it seems worthy of a report.

I was called to see Frank S—— for the first time on December 5, 1889. According to his own account he had then been ill and confined to his bed for three days. He had a severe cough with profuse expectoration, the glottis and parts about were swollen and painful on motion, and the mucous membrane of the mouth and nose was inflamed and swollen. The tongue was white and thickly coated and the sense of taste was completely abolished. The voice was hoarse and nasal in tone. There were very tender spots on both sides of the chest, but the pain seemed to be muscular. Headache and lassitude were complained of. The temperature was 101° F., and the pulse 100. I ordered an expectorant and antipyrin. On the following day all the symptoms were more marked, the inflammation was higher, the cough more severe, and the expectoration more profuse. There were no physical signs pointing to any trouble in the lungs. The patient complained of nausea and great prostration, and was very despondent. He was unable to open his mouth well on account of the inflammation and swelling of the mucous membrane. In addition to the other remedies I then ordered an ice-bag to the throat and cracked ice to be swallowed. I gave him also a gargle of permanganate of potash and a liniment for the soreness of his chest. The following day the pain in the chest and the cough were better, but the pulse was still 100 and weak, and the temperature was 101°. The patient complained of a very severe pain in the region of the acromio-clavicular joint, which was found to be muscular and which disappeared upon the application of massage. On the same day I noticed ulcerated spots on both sides of the posterior molar teeth and also an ulcer on the right border of the tongue. Painting the mucous membrane with a mixture of borax one part, and glycerine five parts, and an application of deodorized iodoform to the ulcers gave great relief. On December 9th, the seventh day of the disease, the patient was much better and began to improve steadily from this time.

To recapitulate briefly, we had here well-marked and severe laryngitis, tracheitis, stomatitis, and rhinitis, moderate fever, various muscular pains, prostration, and mental depression, all of which taken together are, I think, sufficiently characteristic of influenza. On the seventh day the symptoms began to subside, but complete recovery was not established until the twenty-first day.

AN EXPERIENCE WITH THE INFLUENZA.

By RAMON GUITERAS, M.D.,

PHYSICIAN TO THE NEW YORK DISPENSARY.

As one of the physicians of the New York Dispensary, and having in that capacity seen a large number of cases of influenza, it has occurred to me that a short account of my experience with the disease might be interesting to the readers of the Medical Record. The institution to which I refer has exceptional opportunities for the study of all diseases on a large scale, situated as it is in a very populous district, which is largely inhabited by the laboring and pauper classes.

The course of the epidemic at this Dispensary has been a very interesting one to study. My class is one of unclassified Italians, which averages generally about 30 daily, 10 new and 20 old, patients. Since the "grip" has introduced itself, the number has increased from between 60 to 70 daily. Of these, almost 40 cases are new patients, of whom fifty per cent. are suffering from *la grippe*, and twenty per cent. of the old cases are suffering from the same trouble. I have had, since Christmas alone to December 30th, 100 cases of the disease occurring in men, women, and children, ranging from two to fifty years of age, although, probably, ninety per cent. of them have been between the ages of twenty to forty. Of these cases, eighty-five per cent. have been males, principally strong and robust Italian laborers, who have been obliged to put up the shovel and the pick and succumb to the popular malady. These all complain of the same symptoms, chilly sensations or chills followed by high fever, loss of appetite, general prostration, feeling of weakness, especially in legs, strong frontal headache, general rheumatic pains, but especially in the chest and back, foul and coated tongue, bad taste in the mouth, constipation, etc., perhaps nasal catarrh, but at all events winding up in almost every case in a dry bronchitis lasting from two days to two weeks, the feeling of weakness and sweating on slight exertion occurring during this same period.

In reviewing these cases and considering them collectively, I find that only about ten per cent. of the cases have had any nasal catarrh to speak of. That about two per cent. have suffered from an intestinal form of the disease having the same general symptoms as the others, with the exception that the catarrhal symptoms of stomach and intestines have been most marked, and have shown themselves in vomiting and diarrhœa; severe frontal headaches seem to occur in all cases. Pains, variously described as in bones and muscular (probably muscular in most cases), were complained of in about forty per cent. of the cases, although I think that they all suffered from them in a more or less marked degree. Pains in orbits and eyeballs, spoken of by many as characteristic, were only marked in about ten per cent. of the cases coming under my observation.

The epidemic which had been threatening, so to speak, for two weeks past, was finally showered down upon us as a Christmas gift, is at present date at its height, and will continue in all probability for another week and will then begin to decline, so that one month hence the "grip" will be a thing of the past.

The experience in the rooms of the Dispensary is the same, Dr. Cutler's class in general medicine being very large, about 75 cases a day, 50 new and 25 old. Of these,

about sixty-five per cent. of the new cases and twenty-five per cent. of the old ones are suffering from the disease. Dr. Hance's experience in the same class is about the same as Dr. Cutler's. The district work, for which two physicians are employed, is heavier than ever before, averaging about as many daily as it formerly did weekly, so that the force has been increased. This is all due to the epidemic, fifty per cent. of the cases being those of influenza; so that over a hundred cases daily are treated at the Dispensary. In all these cases recovery took place, and, as far as I can ascertain, there were no complications. The treatment instituted may be summed up as follows:

If the attack occurs in the morning a mild cathartic is administered, generally calomel in from two- to ten-grain doses. This is followed at night by a ten-grain Dover's powder and ten grains of quinine. On the following day, when the catarrhal symptons become marked, a pill of morphine (gr. $\frac{1}{10}$), ext. bellad. (gr. $\frac{1}{3}$), camph. (gr. $\frac{1}{2}$), and quin. (two to three grs.), is given every three or four hours.

When the bronchitis is the prominent feature, a mild expectorant mixture is given, containing syr. licorice, squills, senega, chloride of ammonia, morphine, etc. For frontal headache antipyrin, ten to fifteen grains, with whiskey, is administered.

OPERATION UNDER HYPNOTISM.

By EDWARD L. WOOD, M.D.,

RESIDENT SURGEON ST. BARNABAS HOSPITAL, MINNEAPOLIS, MINN.

THROUGH the courtesy of Dr. Hugo Toll, of Minneapolis, Minn., I am enabled to relate the following case which, occurring in his private practice, still came under my personal observation, as the patient, at the time of operation, occupied a bed in our surgical ward. A. S., male, aged seventeen, Scandinavian, entered hospital September 8th, with osteo-myelitis in the upper third of the humerus. There was considerable pain and swelling, some redness, partial immobility of shoulder and elbow-joints, and three fistular openings, one directly in the axilla, one slightly above the insertion of the deltoid, and the third higher up the arm and more posteriorly situated than the last one. In the three days preceding the operation the patient was hypnotized six times by Dr. Toll, in order to get him under good control. On the morning of September 9th he was hypnotized in his bed, and then led to the operating-room and caused to lie upon the table. The several fistulæ were then explored, scraped out, and washed out, after which an incision four inches long was made on the outer aspect of the upper third of the arm, to the bone, and an opening three inches long and three-fourths of an inch wide chiselled to the medullary canal with considerable difficulty on account of the osteo-sclerosis.

I do not intend to give the technique of the operation, nor the clinical history of the case. The work was done under thorough antiseptic precautions. One fistula connected with the incision, and into the other two drainage-tubes were inserted, the recent wound packed with iodoform gauze, and dressings applied with great ease, as the patient, while still cataleptic, could turn from side to side, move about, or sit up, as we directed him.

At 9.50 A.M. he was led to his bed, and told that at twelve o'clock he could sit up and have something to eat, the nurses, meanwhile, being cautioned not to disturb him.

He lay perfectly quiet until that time, and at twelve o'clock, sharp, sat up in bed, stretched his well arm, and said, "Dr. Toll said I could have something to eat at twelve o'clock."

Amputation above the elbow would certainly not have been more painful than this operation, yet the hypnotic condition was preserved through it all, with a loss to the operator of not more than a minute and a half, all told. I have seen several minor operations done with the patient in a cataleptic condition, but to me this case was a revelation, as I think it will be to many of my fellow-practitioners, throwing, as it does, a little light upon what it is possible to do with a favorable subject.

Progress of Medical Science.

Treatment of Barber's Itch.—Dr. Rosenthal orders the seat of the affection to be closely shaved daily, and the following ointment to be rubbed in twice a day:

℞ Acid. tannic ..... grs. xlv.
Lact. sulph. ..... ʒ jss.
Zinc. oxid.,
Amyl ..... āā ʒ iv.
Vaselini ..... ʒ j.
M. Sig.: To be used twice daily.

In a month nothing remains of the eruption but a very slowly disappearing erythema.

Professor Mosetig-Moorhof recommends, in the *Wien. Med. Presse*, the following emulsion for chronic cystitis:

℞ Iodoform. ..... ʒ ij.
Glycerin. ..... ♏ ijss.
Aq. dest. ..... ʒ iij.
Gum tragacanth ..... gr. iv.

Half an ounce of this emulsion is suspended in a pint of warm water. This is injected into the bladder, which has previously been washed out with plain warm water. The process is repeated every three days. After three or four applications the cystitis is said to be cured, or at least very much improved.—*Provi. Medical Journal.*

The Disinfection of Intestinal Discharges.—In the intestinal evacuations of typhus, dysenteric, and cholera patients, Professor Uffelmann instituted a considerable number of experiments with various substances, with the following results: 1. Equal parts of sulphuric acid and water. Certain destruction of all germs after two hours. 2. Sulphuric acid 1 part, to 2 parts of water. Destruction of all germs after six hours. 3. Hydrochloric acid and water, equal volumes. Destruction of all germs after twelve hours. 4. Hydrochloric acid 1, to water 2. Almost certain destruction of all germs after twelve, and certain destruction after fourteen, hours. 5. Carbolic acid. After one hour numerous colonies continued to develop, as also individual typhus colonies; after twenty-four hours, greatly isolated, and no typhus, colonies. 6. Creolin in 12.6 per cent. emulsion. After twenty-four hours, individual colonies continued to develop, but none of typhus or of cholera bacilli. 7. Potash lye with water, equal parts. After acting for an hour, individual colonies continued to grow; none after six hours. 8. Caustic lime, 0.2 gramme, and fæces. After one hour, and even after twenty-four hours, numerous colonies continued to grow, also several of the typhus bacillus; none of the cholera bacillus. Caustic lime, 0.2 gramme, and fæces. Individual colonies continued to grow after twenty-four hours—none, however, containing the typhus or the cholera bacillus. Milk of lime, one hundred and twenty per cent., 12½ parts to 1 part of fæces. Destroyed the Eberth bacillus within two hours. 9. Non-acid sublimate solution, 2 per 1,000. After acting for a quarter of an hour, a tolerably large number of colonies continued to grow; isolated colonies with the typhus, but not the cholera bacillus. After one-half hour, fewer than after one-fourth hour. After twenty-four hours, very few or no colonies, and none with the typhus or cholera bacillus. 10. Solution of sublimate, acidulated with hydrochloric acid, 2 to 1,000. Many less colonies developed than after addition of the unacidulated solution. After one-quarter hour, only isolated colonies observed; none of the typhus or cholera bacillus, and after twenty-four hours, as a rule, none at all. 11. Boiling water. Even when 8 parts of boiling water were added to 1 part of fæces, it did not always disinfect.—*The Medical Age.*

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THE EPIDEMIC OF INFLUENZA.

THERE is now no doubt that influenza, or what is popularly known as "the grip," has become epidemic in this city and is scattered broadcast over the country. It is also quite evident that its general characters correspond with those noted in connection with the prevailing type of the malady in Russia, Germany, and France. Fortunately it is of such a mild type that, save for its invasion of large districts and for the large numbers of persons attacked, it would scarcely be noticed in the category of ailments connected with the usual ones which occur during winter months, associated with rapid and varied changes of temperature and humidity.

The type of the present epidemic partakes more of the febrile and nervous variety than that of the purely catarrhal. The increased temperature in the beginning of the attack, with the severe pains in the head, back, and lower extremities, are the leading phenomena which are noted in the large majority of cases. Only in a comparatively few instances are the coryzal symptoms the leading features of the seizure. This latter is, perhaps, a fortunate circumstance, in view of the generally accepted opinion concerning the greatly exaggerated danger of bronchitis and pneumonia as necessary complications. The prostration is oftentimes extreme, but by no means dangerous, and readily yields to the usual remedies.

The period of illness is comparatively brief, and rarely is the ordinarily robust patient confined to his room more than two or three days, very many, indeed, keeping up and about from the beginning to the end of the sickness.

The reports of the fatality of the disease, as might have been expected, have been very much exaggerated. Particularly does this remark apply to the alarming reports of the recent death-rate in Paris. In point of fact, there is no disease with such a wide prevalence which has such a comparatively low mortality. In this country, at least, there is yet to be reported the first case of death which can be laid to a pure and simple attack of the disease. Even the serious complications are so few as scarcely to merit recognition alongside of those which are constantly occurring with the usual diseases of the season.

The after-effects of the epidemic will doubtless be marked by feelings of prostration more or less continued, and a lowering of the health-tone. The previously robust will quickly rally, while the feeble will require stimulants and tonics for variable periods. The contagiousness of the malady has not declared itself, thus corresponding with the general character of the disease as noticed in previous epidemics.

The treatment has been in accordance with indications, and has necessarily varied. The remedies which have found most favor are laxatives, anodynes, antipyretics, and tonics, with stimulating expectorants. For the headache antipyrin and the bromides have held their reputation; calomel and salines as the laxatives have many advocates; while quinine in tonic doses, especially in the latter stages, has the confidence of the majority.

From present indications, and from past history, the epidemic is likely soon to pass over, a few days more settling the question of immunity from attack.

With this epidemic, as with all others of its kind, the feeble and old have been the first to succumb and the slowest to recover, although all classes of cases have quite generally suffered. There is no better protection against an attack than the maintenance of good health by avoidance of over-fatigue, of undue exposure, and of insufficient food and sleep. But even these conditions are not absolute safeguards, as no one living in an invaded district can have his safety guaranteed. In all probability there will be very few indeed who, after the epidemic shall have passed away, will claim a full immunity from any of its influences, or who will not be somewhat the worse for an entirely unsought experience.

MEDICINE AND THE CIVIL SERVICE.

THE letters of Dr. Dawbarn and our other correspondents regarding the competitive examinations of the Civil Service have excited considerable interest and comment. All who have read this correspondence will, we think, agree that while Civil Service examinations may have been imperfectly and unfairly conducted in some departments, yet it is not the system which is at fault, but its misapplication at the hands of politicians. The appointment of medical men in the Civil Service, solely on political grounds, has for years been a source of scandal and disgrace. Physicians should therefore encourage the thorough enforcement and wider application of the law. On the other hand, some of those who are at present engaged in carrying out this law seem unduly sensitive to criticism, although they are by no means above it. We are quite convinced of the essential accuracy of Dr. Dawbarn's statements. Is has long been known that the methods of appointment of police surgeons have been essentially political.

THE HOSPITAL SATURDAY AND SUNDAY COLLECTION.

THE Hospital Saturday and Sunday Association is again actively at work urging the people to make the annual contribution to the support of the hospitals. The usual figures showing the number of our hospitals, of beds, and the cost of maintenance are given. We are told that the amount of free work done in the hospitals has increased nearly ninety per cent. during the past ten years. The sum of about $300,000 has to be made up every year in order to keep these institutions from

debt, and to this sum the Hospital Saturday and Sunday collection adds about $50,000.

If the free work of the hospitals increases at the same rate in the next ten years, it looks as though New York would get into a similar condition to that which London is in to-day, viz., with an annual deficit of a quarter to half a million dollars, and a thousand or more beds empty because of lack of money.

A good deal of hope has been placed upon the Hospital Saturday and Sunday Association, and it has done excellent work, not only in raising money but in letting people know the exact status of the hospital charities. The annual sum which it collects, however, is but a small one relatively, and it has not increased in any such ratio as have the wants of the hospitals.

We trust that more will be obtained this year than ever before.

CHLORIDE OF AMMONIUM IN WINTER COUGH.

Dr. William Murrell, of London, possesses high scientific attainments combined with a rare talent for getting up a new cough remedy every year. Terebene, apomorphia, sirup of tar, have all been recommended as marvels of therapeutic utility. For the coming winter, Dr. Murrell proposes to give us chloride of ammonium inhalations. This is not a new thing, but it is served in a little different style. Dr. Murrell, however, does not depart entirely from his earlier loves, for he usually employs the chloride of ammonium vapors as a vehicle for using terebene, sandal-oil, or some other balsamic compound.

We rejoice to see that Dr. Murrell possesses not only an original and observant mind, but that he has a sense of humor which adds much to the interest of his clinical notes. In illustration of the value of the ammonium inhaler, he cites the following case :

"N. B——, a general, retired. Is deaf. Has been deaf for years. Was in the artillery. Says all gunners are deaf, so that they never hear anything not good of themselves. Has strange noises in his ears. Dislikes any noise in a room, especially rattle of knives and forks at dinner. Prefers dining alone on this account. General condition very bad, partly from want of exercise. Has consulted all the specialists, and has had his ears examined with many strange instruments. Says that the advantage of consulting many doctors is that no two of them agree, and you are not alarmed by what they tell you. Not much in favor of inhalers. Tried one once, but it blew up. Is introduced to the inhaler, and takes to it kindly. Chloride of ammonium used first alone and then with pinol. Purchases one for himself, and at end of month writes to say it has done him much good."

This is a report of a case full of practical suggestiveness.

The following note is almost equally valuable :

"Miss A. W——, singer, contralto, often loses her voice, especially when she has an engagement. Chest and vocal cords healthy. Thinks symptoms partly due to nervousness. Voice uncertain, and apt to give in the wrong place. Something wrong with an upper C. Uses the chloride of ammonium inhaler, and takes phytolacca assiduously for a couple of days before singing. Maintains that it does her good. Impossible to contradict a lady, so treatment continued."

We trust that Dr. Murrell's politeness had its therapeutic reward. The inhalations of ammonium should be taken once to thrice daily, for half an hour at a time.

THE FUNCTIONS OF THE TRACHEA.

The tracheæ are all the respiratory organs which insects possess, and their physiology would be of great interest no doubt to this class of animals. The trachea of man, however, is only a short, membranous tube, simple both in structure and function. But its special physiology has also been recently elaborately studied by M. Nicaise, who presented a *résumé* of his work to the Paris Académie des Sciences.

In the state of normal, calm respiration the trachea remains slightly contracted and does not change its volume appreciably. The posterior extremities of the annular cartilages are almost in contact, and the membranous portion lies in a linear fold.

During strong respiration—in crying, groaning, singing, etc.—the trachea is dilated and lengthened while the larynx rises; in inspiration the trachea shortens and contracts again. There occurs, therefore, a rhythmical change in the calibre of this tube, the exact degree of which can be measured. The dilatation is in proportion to the force of expiration, and is greatest in the upper part. This dilated trachea acts as an elastic tube compressing the contained air. By virtue of this property it serves an important use in the production of the voice, in singing, speaking, etc. Modifications of the singing voice and of the capacity for speaking may be caused by pathological changes in this organ.

ASYLUM PHYSICIANS NOT PERMITTED TO TESTIFY.

Reuben A. Holder, who had been a patient at the New York City Asylum for the Insane for some eight months, was brought before Justice Patterson at Supreme Court Chambers upon a writ of *habeas corpus*. At an *inquirendo de lunatico*, ordered before Justice Andrews and a jury, the medical superintendent, Dr. Bond, was put upon the stand. The attorney for Holder objected to the doctor's testimony upon the ground that the relation of physician and patient had existed, and was therefore inadmissible under section 834, Code of Civil Procedure, "A person duly authorized to practise physic or surgery shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity."

The Court reserved decision until after recess, when the objection was sustained. In rendering this opinion Justice Andrews said that during the recess he had conferred with several of his associates, two of whom were sitting at General Term.

The same objection was made to the testimony of the examiners who gave the certificates upon which the patient was admitted to the Asylum. This objection was overruled.

One of the Asylum attendants was permitted to testify, and this was all the testimony given regarding the patient's mental condition since his admission to the Asylum eight months before. Under such circumstances it is not to be

wondered at that he was declared sane. It did seem something of a farce to see an attendant testify regarding a person's sanity while the Asylum physicians sat in the court-room, their lips being sealed. This may be just and good law, but for a fair and just scientific inquiry most absurd.

Under such rulings all patients might be discharged, regardless of their mental or physical condition, unless the city went to the expense of employing outside physicians to examine the patients. One cannot but wonder if this patient were to bring suit against the city and the Asylum physicians for damages for detaining a sane person in the Asylum the same ruling would hold, and if so, what protection an Asylum superintendent has against such suits.

MEDICAL SOCIETY PRIZES.

The prizes of the Académie de Médecine of Paris, for 1889, have just been awarded. There are some twenty in all, the sums ranging from $100 to $1,000. A perusal of the titles of winning essays inclines one to the view that no very brilliant work results from the offering of these large sums of money. A prize of $100 dollars is given for an "Elementary Treatise on Human Physiology;" $300 is awarded for an essay on "Anomalies of Vision;" $200 is given the author of an essay on the "Different Methods of Doing Cæsarean Section." A prize is given for an essay on "Gaseous Tumors of the Neck," and one for an essay on "Vesico-vaginal Fistula." Half of the 5,000 franc prize is given to the author of a work on the "Surgery of the Kidneys."

It need not be said that such prizes were either unworthily awarded, or the committee having such matters in charge had not the latitude allowed it that obtains on this side of the Atlantic. It is a standing and well appreciated fact that few of the essays submitted for society prizes are worthy of any notice whatever. In truth, there is not a proper incentive for such work, compared with that of offering good papers to widely circulated journals, and obtaining thereby a well-earned and wide reputation for well doing. Many of our larger societies each year report through their prize committees that no essay worthy of a prize has been offered, and, consequently, no prize is given. The reason is obvious enough. The medical journals absorb readily the best work of the best writers and make it current literature, instead of its being the limited edition of prize essays published under the sanction of a society.

ELECTRICITY IN RESPIRATORY FAILURE.

A few years ago Professor Ziemssen had an opportunity of applying the galvanic and faradic currents directly to the living human heart. He stated that as a result of his experiments the heart did not react to faradic electricity by percutaneous faradization; but that it did respond like other muscles to galvanic stimulation. He found that he could even change the rhythm of the heart in accordance with the interruptions of this current.

Dr. H. A. Hare, however, has recently published an article (*University Medical Magazine*, November, 1889) in which he contradicts to some extent the statements of Ziemssen. He found that in anæsthetized dogs a faradic current placed over the course of the phrenic nerve would not only stimulate the diaphragmatic contractions, but inhibit the movements of the heart by its action on the vagus. In cases of drowning, therefore, or of respiratory failure during anæsthesia, the use of a faradic current over the neck to stimulate the phrenic nerve would, he thinks be attended with much danger, for this nerve runs so close to the vagus that if it were excited inhibition of the heart would also be very likely to follow. He adds:

"Against the reflex excitation of respiration there cannot be the same objection. The electric brush produces a more powerful effect upon the terminal extremities of the sensory nerves than any known method of stimulation. Far more powerful than the douche and than abdominal applications of ether, it should be used under all circumstances when death threatens from respiratory failure. It should not, however, be applied to the neck, but a sponge electrode being placed at the base of the ribs the brush should be applied at intervals to the epigastrium, to be removed when inspirations result, and reapplied when breathing movements cease. If artificial respiration is being carried on by Sylvester's or other of the recognized mechanical methods, the wire brush should be applied during the inspiratory movements."

The same objection to the use of a faradic current over the neck in respiratory failure would hold against the galvanic; and we must infer that the use of electricity in these conditions is to be made with caution. The galvanic current applied directly over the heart might possibly stimulate that organ if it had stopped beating; but it should not be applied over the neck. The faradic current can be safely employed over the chest and epigastrium, but its chief effect is by its cutaneous stimulation.

LOOSE PRESCRIBING.

How many physicians ever stop to consider the harm they do themselves and each other, as well as their patients, by the habit of loose prescribing? By loose prescribing we mean the careless giving of a verbal or written prescription to a patient, or it may be a friend or a friend's friend, without taking the common-sense precaution of finding out what ails the person to whom the advice is given.

That this is but too common a custom needs, unfortunately, no argument, for who can affirm, with his hand over his heart, that he is guileless of the fault? It is so easy to recommend a little dose of calomel if a friend tells you that he is bilious, or some quinine if he has a cold, or even fifteen grains of antipyrin if he asks you what to do for his wife's headaches. You know the man doesn't feel ill enough to put himself formally under your professional care, but merely wants a little something to straighten himself out. You don't wish to offend him, so you give him "a little something," hoping that it won't do him any harm anyway; and he goes off content, and with the feeling that you are a very nice, obliging fellow. But, supposing that your friend is the regular client of another physician, have you been just to your confrère? And supposing that he is your own patient, have you been just to him in letting pass the first symptoms of what may be the beginning of a serious illness, which might, with a little care, be throttled before it has gotten too firm a hold upon him? And in such a case have you been just to yourself,

in endangering your reputation by failing to recognize these premonitory symptoms of disease? Of course not. You are guilty in every instance, and if no evil consequences ensue, put it down to your good luck, and don't swell yourself up with the idea that you are a good fellow and a smart doctor.

But there is another, and wholly reprehensible, method of loose prescribing, and one that is indulged in all too freely. For instance, a friend meets you casually, and in the course of conversation tells you of a friend of his who is sick with, we will say, malaria. He is under the care of Dr. Blank, and has been taking quinine, but doesn't seem to improve very rapidly. You say, thoughtlessly, it may be, "Why doesn't he take Warburg's tincture?" He does take it, on your recommendation, conveyed to him by his and your friend, and believes he recovers more rapidly. His own doctor's stock falls and yours rises, but have you really gained by it? Not in your own estimation, if you are the honorable man we hope you are.

Gentle reader, dwell for a moment upon the responsibilities of your noble calling, and when you are tempted to prescribe in a loose and off-hand way—don't.

HYGIENE WITH A VENGEANCE.

A WRITER in the *Northwestern Lancet* has been studying the subject of menstruation among school-girls, and comes to the conclusion that all girls should be kept out of school during their first menstrual year, while, if they have any tendency to pain, they should be put to bed during the whole time of menstruation. If people followed this advice, nearly every girl would lose a year out of her educational life, and a good many would lie in bed sixty days out of every year. Such advice is ridiculous, and it is unfortunate that it should ever appear with any weight of medical authority.

NON-TUBERCULAR HÆMOPTYSIS.

SIR ANDREW CLARK, Bart., M.D., though a busy man and no longer young, has not lost his receptivity, or his powers of observation and analysis. About once a year he furnishes the medical world with a new disease, or some fresh interpretation of an old one. To his "venal inadequacy" and "catheter fever" he has lately added a "non-tubercular hæmoptysis of elderly people," and this clinical condition is evidently one that deserves some attention. Like most physicians, Dr. Clark had been in the habit of ascribing all cases of pulmonary hemorrhage, not due to a malignant growth or heart disease, to tuberculosis. He had, however, not very infrequently met cases in which this theory proved unsatisfactory, for the patients were not phthisical, and their hemorrhage did not yield to the ordinary measures, such as rest, ice to the chest, astringents, etc. Since 1875 he had seen twenty cases of this kind in persons over fifty years of age. There was usually a rheumatic history. In two cases where death occurred, no tubercles were found, but emphysema, congestion, and scattered small hemorrhagic extravasations. The seat of hemorrhage was in the neighborhood of the emphysematous patches, and many of the terminal arteries were found to be diseased.

Dr. Clark frames the following as the results of his inquiries:

1. That there occurs in elderly persons, free from all disease of the heart and lungs, a form of hemorrhage arising out of minute structural alterations of the terminal blood-vessels of the lungs. 2. That these vascular alterations occur in persons of the arthritic diathesis, resembling the vascular alterations found in osteo-arthritic articulations, and are themselves, probably, of an arthritic nature. 3. That, although sometimes reaching to a fatal issue, it usually subsides without the supervention of any coarse anatomical lesion of either heart or lungs. 4. That it is aggravated or maintained by the administration of astringents, and by indulgence in liquids to gratify the thirst caused by them. 5. That the best treatment is diet and quiet, cutting off the supply of liquids, quieting the cough, calomel and salines, alkalies and iodide of potassium, and free counter-irritation.

YEAST-PLANT PATHOLOGY.

WE observe, at periodical intervals, the appearance of medical contributions upon the subject of "clinical morphology," sometimes illustrated with figures suggestive of ancient griffins and dragons, but which, we learn from the context, are only yeast-plants in various stages of growth. These articles are becoming more numerous of late, and we note that this yeast propaganda, in combination with the *crypta syphilitica*, has reached and endeavored to leaven the American Medical Association. It seems hardly possible that any medical men can be caught by the transcendental gibberish which goes with the yeast pictures and the preachers of "clinical morphology." Their doctrine, so far as we can learn, consists in this: That ingested foods ferment, and always through the yeast-plant; that the spores of this pan-pathogenic sporule pass into the blood, and there continue the dire fermentative processes, causing phthisis, dyspepsia, cirrhosis, etc. The learned "clinical morphologist" pricks the finger, takes a drop of blood, looks at it under the microscope of some miraculously high power, and, "if conscientious," sees a few hæmatoblasts and disintegrating blood-cells, which he solemnly avers to be yeast-spores. If the patient's blood is full of these, he must live upon chopped meat and hot water, in order to wash them out. It is astounding that educated men will go on for years asserting certain things to be facts, without ever trying to demonstrate them as such. This is the case with the clinical morphologist and his ridiculous *eidolon hæmatos*. Although it would be perfectly easy to prove or disprove the existence of his spores by modern mycological methods, this is not done, but shrivelled blood-cells and hæmatoblasts are figured as parasites, with the help of misused microscopes and a fantastical imagination. Medical men have a right to pursue a vagary, if it is a harmless one, and often it may be connected with some useful therapeutic procedure, like the drinking of hot water, and the use of non-fermentative food. But the time has passed when the unspeakable nonsense of the yeast-spore, and the spook pictures of it, and crypta syphilitica, should be tolerated in medical literature or before medical societies.

They Might Try Stavesacre.—The medical profession of Cincinnati is infested with all sorts of parasites.—*Medical News*, December 7, 1889.

News of the Week.

Typhus-fever Cases in New York.—The two cases of fever which arrived two weeks ago, on the ocean steamship Westmoreland, have been transferred to North Brother Island by the Health Department. One is undoubtedly a case of typhus, but the other has not declared itself and is still under observation.

Death from Chloroform.—A death from chloroform is reported in the issue of December 21st of the *British Medical Journal*. The patient was a female, forty-one years of age; the operation was trachelorrhaphy, and was duly completed. On removing the "face piece" retching occurred —more chloroform given. Suddenly breathing ceased. The heart, examined before the operation, was declared healthy. No autopsy was made.

Dr. Bernard Ruppe, an old and well-known German physician, was found dead in bed, December 29th. He was born in Saxony fifty-six years ago and received his medical education at the university in Jena. He came to this country almost immediately after receiving his diploma, and established himself as a practitioner in the Eighth Ward. He was physician to the German Society, and consulting physician to the German Hospital.

Diphtheria in Illinois.—Diphtheria appears to be raging with considerable virulence in Southern Illinois. Dr. Toby, of Macon, states that he has treated seventy-five cases recently, and the public schools there are closed on account of it. Dr. S. J. King, of Illopolis, Ill., reports treating thirty-seven cases, and Dr. S. W. D. Mayes, of the same place, twenty cases; while at Clinton the post-office has been quarantined on account of this disease.

Scientific Penalogy.—A singular association, the "Beccaria Club," has recently been organized to promote the study and practice of scientific penalogy. No one is permitted to be a member unless he is or has been, in some way, directly connected with prison management, or with some regularly incorporated prison association, or has written some work on penalogy. We do not recognize the name of a single physician among those stated as constituting its members, although we should think that such an association would be very incomplete without a medical representation.

Sulphur Worthless for Fumigation.—It appears that the prevailing method of disinfection by means of burning sulphur is considered by some of the leading bacteriologists as of less value than it has heretofore been considered. Dr. J. G. Johnson read a paper before the Kings County Medical Society on the 17th ult., in which he stated that he had proved the present system of fumigation as worthless for the destruction of disease-germs; that the fumes of burning sulphur do not penetrate woollens as disease-germs do. He also stated that he had propagated diphtheria from the clippings of blankets after they had undergone a thorough process of fumigation by burning sulphur. Dr. Prudden, of the New York City Board of Health, appears to have come to the same conclusion, and in both New York and Brooklyn currents of steam are to be recommended for disinfecting purposes instead of burning sulphur.

St. Luke's Hospital, New York.—Dr. T. Halsted Myers has been appointed Attending Orthopædic Surgeon to this hospital.

A Projected Italian Hospital.—An appeal has been made for the establishment of an Italian hospital in this city. It is difficult to understand what necessity there can be for such an institution, in view of the fact that in none of the well-established hospitals of this city are Italians denied admission or treatment.

The Medical Society of the State of South Carolina celebrated its one-hundredth anniversary at Charleston, December 9th, by an oration in South Carolina Hall by Dr. Kollock, followed by a dinner at the Charleston Hotel. The Medical Society of South Carolina ranks among the oldest of its kind in America; the three older than it being the New Jersey State Medical Society, founded in 1756; Massachusetts Medical Society, founded in 1781; and the College of Physicians, Philadelphia, founded in 1787.

Boston has a Leper who came from St. Louis, but has been detained in quarantine.

The German State Examining Board recently held its annual examinations. Among the 683 applicants, 504 were passed.

Circumcision not of Sanitary Origin.—The idea that the ceremony of circumcision among the Jews was of a sanitary origin is strenuously denied by Mr. C. Roberts, of London, who thinks it was of the nature of a sacrifice, the prepuce being the easiest, and, indeed, the only part of the body of an infant which could be removed with safety. It is quite possible it is remotely connected with phallic worship, which is common enough at the present day in India and other parts of Asia. It is practised by other races than the Jews—some African tribes—who are not far advanced in sanitary knowledge. Mr. Roberts insists that the removal of the prepuce should not be undertaken except for very good reason. In his experience it does not necessarily prevent masturbation, but may even encourage it.

A Memphis Medical Journal devotes a page to advertising its undertakers. The wood-cut of the coffin is an artistic piece of work, and it is surrounded by assurances, in well-chosen English, from which we infer that the patients of our esteemed contemporary will receive conscientiously elaborate mortuary disposal.

Contaminated Water and Typhoid Fever.—An epidemic of typhoid fever prevails in Berks County, Pa., caused by contaminated drinking-water. The supply is from a stream along which the city erected a pumping-stand, and arranged to get its supply of water for household purposes in a few weeks. The carcasses of diseased cattle are said to be soaking in the stream above the infected district.

Poisoned by Self-prescribing.—A man in Newark died on Wednesday after having taken a hypodermic injection of pilocarpin for morphine. The medicine was sold him by mistake of the druggist. Very bad both ways.

Intubation of the Larynx has been abandoned by Thiersch, of Leipsic, who claims to have given it a fair trial, but prefers tracheotomy.

The Emperor of Germany and his Ear Trouble.—The German papers report that the trouble in the Emperor's ear, chronic suppurative otitis, is giving him considerable pain, and that he is constantly under treatment for it.

A Gift to the Maine General Hospital.—By the will of the late Dr. H. H. Hill, of Augusta, Me., his residuary estate is left to his executor to be invested, the net income, and part of the principal if necessary, to be devoted to the support of his wife. Upon her decease he directs that from any of the estate which remains small legacies are to be paid to several of his nieces, and his residuary estate is then to pass to the Maine General Hospital. The estate is valued at $40,000.

Contracted Diphtheria from a Patient.—An interne of the Charité, of Berlin, recently contracted diphtheria from a patient and died.

The Health of Connecticut.—Dr. Lindsay, the State Secretary of Health of Connecticut, considers that a large percentage of the deaths from diphtheria, scarlet fever, typhoid fever, and such other preventable diseases, results from the inefficiency of the Health Boards of towns and the general neglect of well-known precautions. In thirty-four towns of the State no deaths were reported during November. Nine of these towns were in New Haven County, seven in Litchfield, five in Tolland, three each in Hartford, New London, Fairfield, and Windham, and one in Middlesex County. Wallingford, which has a population of six thousand, did not report a single death during the month. In addition to Wallingford, the New Haven County towns in which death was escaped through the month were Bethany, Madison, Middlebury, North Branford, Oxford, Prospect, Southberry, and Wolcott. The Litchfield County towns reporting no deaths during November were Cornwall, Goshen, Kent, North Canaan, Norfolk, Warren, and Washington. In Fairfield County there were only three such towns, being Brookfield, Sherman, and Trumbull. Tolland County showed the towns of Bolton, Coventry, Ellington, Somers, and Tolland as reporting no deaths in November. In Hartford County the towns were Bloomfield, Marlborough, and Newington; in Windham, Ashford, Hampton, and Sterling; in New London, Bozrah, Salem, and Ledyard. The only town in Middlesex County reporting no deaths for the month was Middlefield.

A Singular Interment.—On November 26th last Dr. John W. Bartlett died in Los Angeles, Cal. In accordance with the terms of his will and well-known wishes, his remains were cremated and forwarded to Milwaukee by mail. They consisted of a whitish powder, and were enclosed in a small rosewood box, 11½ inches long, 8 inches wide, and 3 inches deep. The interment of this casket took place in Dr. Bartlett's family plot at Forest Home Cemetery, Milwaukee, on December 13th. Dr. Bartlett was born in Portsmouth, N. H., 1816. He graduated from Yale College and immediately removed to Milwaukee, and subsequently to California. He was a member of the American Medical Association for many years, vice-president of it in 1872, and one of its censors for a long time. He was one of the vice-presidents of the International Medical Congress in 1876, and was president of the Wisconsin State Medical Society.

The New York Hospital has been lighted throughout by electricity, and physicians, patients, and management are alike gratified. Sanitary motives alone dictated the change, for it was thought that a better and more even temperature could be maintained, and a less vitiated atmosphere be secured in the wards, where these are all-important, than with the use of gas. There would be no consumption of the oxygen with the electric lights, as there had always been with gas-lights, and so the change was made. A practical electrician put into the building seven hundred Edison lamps and the necessary wires and switches, and connected them with the service wires out in the subways. The outfit for the operating-rooms includes a series of movable reflectors, which will enable the performance of operations at any hour of the night, with a facility equal to that experienced in daylight. In the wards the change was particularly noticeable, and was highly appreciated by the patients.

The Methodist Episcopal Hospital in Brooklyn.—The second annual report of the Methodist Episcopal Hospital in the city of Brooklyn has just been issued, and it shows that that youthful institution has prospered. During the period covered by the report—from November 1, 1888, to October 31, 1889—611 patients have been treated, of whom 305 were cured of the diseases afflicting them; the receipts from various sources amounted to $54,497.38, and the disbursements to $54,039.64, thus leaving on hand a balance of $447.69 at the end of the hospital's second year of existence. The cost of running the hospital itself was $33,708.04. In addition to this financial statement should be added the fact that the endowment fund has been increased during the year from $71,000 to $92,000, with about $9.000 worth of real estate still to be added. As far as the patients received are concerned, the hospital is absolutely non-sectarian. People of all creeds and nationalities have been treated, and some—very many—who had no religion at all were cared for. We are pleased to note the prosperity of this worthy institution. Although with a very sectarian name, we are glad to learn that it has non-sectarian principles. Think of it! actually treating many sick "who had no religion at all." Can there be any greater stretch of charity than that?

Co-operative Medicine.—A bill has been introduced in the Legislature of this State incorporating the People's Co-operative Medical Association of Brooklyn, which is to furnish cheap medical attendance and medicine. Capital, $1,200.

Veterinary Medicine.—It often becomes a serious question with us why, in view of the overcrowded medical profession, more bright men do not take to veterinary medicine. Men are willing, as a rule, to pay more for the treatment of their horse than for themselves, consequently the "horse doctor" is quite in demand and willingly paid, and whatever else the patient may do in the way of kicking, such equine perversity is never in the direction of the bill. The field invites earnest laborers who wish to earn an honest and honorable living. There is certainly a demand for such a study, as already the large universities are founding veterinary annexes under the supervision of competent veterinarians.

Diphtheria is prevailing in many towns west and southwest, a thing to be expected at this season.

Physical Troubles of the Great Folks.—"Uneasy lies the head that wears a crown" appears in these days to be true not only from the cares of royalty, but also from their inherited or acquired bodily ailments. The Czar of Russia is said to be hypochondriacal and terribly shaky in the nerves. The Czarina is even worse, and is subject to attacks of intense nervous prostration. The Emperor of Austria is physically healthy enough, but in consequence of the suicide and the sad circumstances attending the death of his son is a melancholy, heart-broken man, while his wife is said to be a martyr to sciatica, rheumatic fever, and melancholia. She belongs to the same family which numbers among its members the crazy kings of Bavaria. The North Germans declare that the King of Wurtemberg is more than half demented. King Milan of Servia is haunted by a dread of assassination, and the Sultan of Turkey is in constant fear of the fate of his predecessor. The physical defects of William II. of Germany give him almost constant pain, and are well known. The King of Holland is paying the penalty of a dissipated life. The King of Italy suffers from chronic gastric derangement, said to be the result of excessive smoking of green cigars. The infant King of Spain inherits from his father weaknesses which will probably make his life miserable. The King of Belgium is lame. The Queen of Roumania is troubled by hallucinations. Queen Victoria may be physically well enough, but she is an irascible old lady, and notoriously difficult to manage. The list might be continued still further.

Reviews and Notices of Books.

Wood's Medical and Surgical Monographs. Consisting of Original Treatises and of Complete Reproductions in English of Books and Monographs Selected from the Latest Literature of Foreign Countries, with all Illustrations, etc. Vol. III. New York: William Wood & Co. 1889.

This volume of the "Monographs" comprises the numbers for July, August and September. The first number contains essays on "Cancer and Cancerous Diseases," by Sir Spencer Wells; "Cardiac Dyspnœa and Cardiac Asthma," by Dr. S. von Basch; "The Influence of Menstruation and of the Pathological Condition of the Uterus on Cutaneous Diseases," by Dr. L. Grellety; "Tension as met with in Surgical Practice; Inflammation of Bone; Cranial and Intracranial Injuries," by Mr. Thomas Bryant, and "Antisepsis and its Relation to Bacteriology," by Dr. J. Neudorfer. In the second number we find the "Manual of Hypodermic Medication," by Drs. Bourneville and Bricon, which has been translated from the second French edition by Dr. A. S. Currie, and revised and rearranged for American readers by Dr. Charles Rice, of this city, whose notes add not a little to the practical value of the work. There are also short articles on "The Treatment of Syphilis at the Present Time," by Dr. Maximilian von Zeissl, and "The Treatment of Inebriety in the Higher and Educated Classes," by Dr. James Stewart. The September number contains the index and table of contents for the volume, and in addition five monographs on "Congestive Neurasthenia or Nerve Depression," by E. G. Whittle, M.D.; "The Art of Embalming," by Benjamin Ward Richardson, M.D.; "The Etiology, Diagnosis, and Treatment of Tuberculosis," by Dr. H. von Ziemssen; "Psycho-therapeutics, or Treatment by Hypnotism," by Dr. C. Lloyd Tuckey, and "Sexual Activity and the Critical Period in Man and Woman," by Dr. Louis de Séré. It is impossible to present a critical review of all these papers, thirteen in number, the titles of which we have just enumerated, but a mere catalogue of them is sufficient to indicate the nature and scope of this excellent series of monographs, and to show that any practitioner, whatever his special tastes may be, cannot fail to find there many articles each year, any one of which would repay him for his subscription to the entire work.

Lectures on Massage and Electricity in the Treatment of Disease. (Masso-electro Therapeutics.) By Thomas Stretch Dowse, M.D., Fellow of the College of Physicians of Edinburgh; Formerly Physician Superintendent of the Central London Sick Asylum; Associate Member of the Neurological Society of New York, etc. Bristol: John Wright & Co.

In this volume we have a conveniently arranged mass of information on the still but imperfectly understood subject of the treatment of disease by massage and on the equally imperfectly understood but more abused method of treatment by electricity. Thirteen lectures are devoted to the former and but two to the latter. The author is very fair in his claims for both massage and electricity, and regards neither agent as more than an aid to treatment, and deprecates the too great praise of either. After a general description of massage and review of the principles involved in its application, the author takes up each region of the body in turn and gives the indications for, and mode of applying, the agent for the diseases and morbid conditions there located. The descriptions are clear and easy of comprehension by the reader, and are rendered still more satisfactory by the judicious use of fairly well executed illustrations. The book is a good one.

A Reference Handbook of the Medical Sciences. Embracing the entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Illustrated by Chromolithographs and Fine Wood Engravings. Edited by Albert H. Buck, M.D., New York City. Volume VIII. New York: William Wood & Co. 1889.

The appearance of this eighth volume marks the completion of a work which is unique in medical literature. There is no lack of encyclopædias of medicine, but those published up to this time either relate to special branches of the healing art or are so bulky as to render them in great measure useless to the practical physician. In this work, however, every subject of interest to the practitioner of medicine is fully treated, yet the whole is contained within the limits of eight octavo volumes. The volume before us contains the articles from "Wormseed" to "Zymotic Diseases," an appendix of papers which were not inserted in regular alphabetical order, and a very complete index to the entire work. The latter, it is needless to say, adds greatly to the value of the work. "Yellow Fever," "Brain," "Spinal Cord," "Intussusception," and "Lymphatic System" are the articles of most prominence in glancing through the volume, the illustrations in the last named being conspicuous for their beauty and clearness. We can only repeat at this time what we have so often said in commenting upon the previous volumes, that we regard the work as invaluable to the practitioner of medicine, whether he be a general practitioner or a specialist. There is almost no subject even remotedly connected with his art concerning which he may not find all necessary information within the covers of these eight volumes. The editor and publishers are to be congratulated upon having rendered such a benefit to the science of medicine. We shall take an early opportunity now that this most valuable work is completed to give to our readers such a critical review of the entire series as its merits and importance entitle it to.

Essentials of Physiology. By H. A. Hare, M.D. Pp. 193. Philadelphia: W. B. Saunders.

Essentials of Pathology and Morbid Anatomy. By Armand Semple, M.D. Pp. 160. Philadelphia: W. B. Saunders.

Both of these students' manuals belong to the "Question Compends" series. The one on physiology has been favorably noticed in these columns and is now in its second edition. We have seen no reason, in examining the book a second time, to change our opinion that it stands at the head of its class.

It is a somewhat bold task to attempt this line of writing with reference to pathology and morbid anatomy. So many questions in these subjects are still debatable ground that the difficulty lies in making statements which are decisive and yet not outside the pale of accepted doctrine. Dr. Semple has succeeded, however, in making his task a profitable one for the reader. The volume supplies a place heretofore not well filled in students' series.

Diseases of the Eye. A Practical Treatise for Students of Ophthalmology. By George A. Berry, M.B., F.R.C.S. Ed; Professor of Ophthalmic Surgery, Edinburgh Royal Infirmary, etc. 8vo, pp. 670. Philadelphia: Lea Brothers & Co. 1889.

Mr. Berry gives the profession a very useful and practical work on diseases of the eye. The arrangement is thoroughly clinical in character, and as such commends itself to the earnest student. The illustrations of different eye diseases, which are numerous and typical, are fine specimens of chromo-lithographic art. The section on refraction is an admirable *exposé* of the present state of our knowledge on the subject, and is the leading feature of the work. The third and last section treats of the classified operations upon the eye and its appendages, and gives all the well-approved methods, together with the author's views upon the same. The author has not given much attention to pathological questions, save only when required to do so by way of explaining a method of treatment which could not be made intelligible otherwise.

Transactions of the American Orthopedic Association. Vol. I. 1889.

This very neatly printed and pleasing volume contains the transactions of the first two meetings of the American Orthopedic Association, the report of the first meeting, however, being quite brief. The work done at the second meeting, in Washington in the fall of 1888, is fully reported, and certainly shows that the Association was not formed in vain. The "Transactions" form a very valuable addition to the literature of orthopedic surgery in this country.

The Washington Life Insurance Company. Historical, Actuarial, and Medical Statistics. New York: Published by the Company. 1889.

This is a large volume of over one hundred and fifty pages, fairly bristling with statistics relating to the business of life insurance. The book is well gotten up, and is one that will have a permanent value as a work of reference for writers on disease in its etiological aspect.

Movimento Clinico nello Instituto Ostetrico-Ginecologico della R. Università di Bologna, Diretto dal Prof. Cav. Carlo Massarenti. Bologna.

A brief report of the cases treated at the Obstetrical Institute attached to the University of Bologna, for the year ending July 31, 1889.

La Uretrotomia Interna en la Isla de Cuba es tan Inocente como la Dilatacion Progresiva. Por el Dr. Ignacio G. Plasencia. Habana: G. Cacho-Negret. 1889.

In this work the author argues well in support of the operation of internal urethrotomy in preference to gradual dilatation for the relief and cure of stricture of the urethra.

Transactions of the Southern Surgical and Gynæcological Association, 1888. Vol. I., 1888. Birmingham, Ala.: Caldwell Printing Co. 1889.

Transactions of the Gynæcological Society of Boston. New Series. Vol. I. Boston: Cupples & Hurd. 1889.

Transactions of the Illinois State Medical Society for 1889. Chicago: Jameson & Morse Co. 1889.

These volumes, though primarily of local interest, yet contain many valuable contributions to American medical literature. It is satisfactory to note the uniform arrangement and typography which now prevail in all our State and local society reports. These three reports, especially, reflect great credit on their respective publication committees.

A Treatise on the Science and Practice of Midwifery. By W. S. Playfair, M.D., LL.D., F.R.C.P.; Professor of Obstetrical Medicine, King's College, London, etc. Fifth American, from seventh English edition, with Notes and Additions. By Robert P. Harris, M.D. 8vo, pp. 659. Philadelphia: Lea Brothers & Co. 1889.

Excellent as is the English edition of this standard work, the American edition is a considerable improvement upon it, by the valuable additions of the American editor, referring to the more recent advances in obstetric surgery. The American editor has brought up the work to date on these subjects, and gives interesting statistical records to the close of 1888.

Chemistry, General, Medical, and Pharmaceutical, including the Chemistry of the United States Pharmacopœia. A Manual of the General Principles of the Science and their Application in Medicine and Pharmacy. By John Attfield, F.R.S., M.A. and Ph.D., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain, etc. Twelfth edition. 12mo, pp. 770. Philadelphia: Lea Brothers & Co. 1889.

The first edition of this standard manual was issued in 1867, since which time twelve editions have been issued. The present one meets the demands of a leading textbook, contains the discussion of the most recent researches in the science of chemistry as seem necessary for the demonstration of the latest developments of chemical principles and the latest applications of chemistry in pharmacy. The work also includes the chemistry of the United States, British, and Indian Pharmacopœias.

Egypt as a Winter-resort. By F. M. Sandwith, F.R.G.S. 153 pp. London: Kegan, Paul, Trench & Co.

The writer aims to answer the inquiries of increasing numbers who visit Egypt for health or pleasure, with the present increased facilities for travel. He states that during six years, ending in June, 1889, only nine British visitors to Cairo have died, and seven of them arrived there ill of incurable diseases. The advantages of Egypt he thus summarizes: 1. A dry and exhilarating air which acts in itself as a tonic, and enables visitors to be out of doors in sunshine the whole day. 2. An almost complete absence of rain, and of fog, and of clouded leaden skies. 3. The absence of extreme cold, so that the invalid by closing his windows at sunset need never breathe air colder than 55° F., even without any artificial heat. 4. The absence of strong winds at Cairo and Luxor, though individuals occasionally require special protection on the Nile. 5. The interest and relaxation of mind inspired in a country where may be studied the remains of the ancient Egyptians, Persians, Greeks, Romans, Arabs, and Turks. 6. The presence in a perfectly healthy Oriental city of most available European luxuries, and a large and hospitable English society. 7. The absence of moribund phthisical patients, who find Egypt too far from home. 8. The facilities for riding and driving, and for playing all out-door games.

A Treatise on Gout. By Sir Dyce Duckworth, M.D., Physician to, and Lecturer on Clinical Medicine at, St. Bartholomew's Hospital, London. 8vo, pp. 476. Philadelphia: Blakiston, Son & Co. 1889.

It is refreshing to a degree to obtain the experience of a typical general practitioner upon a disease which has such general manifestations throughout the economy as the one which forms the title of the work before us. While the author apologizes for not being a specialist on the subject, he unconsciously commends his observations the more to the thinking and practical reader. It is not surprising to know that the author is, under the circumstances, eminently practical in his observations and his deductions. While there is nothing startlingly original in the pathogeny or treatment of gout in its multiform varieties, it is exceedingly interesting to follow his suggestions and analyze the force of his clear reasoning. Although he maintains that uric acid is the peculiar irritant, it may nevertheless work its varied evils without, in every instance or in every tissue, giving token of its presence. The phenomena, too, are to be explained by something beyond the resultant effects of aberrant relations of uric acid, something more than a perversion of animal chemistry. In fact, it refers itself to a diathetic tendency, which in this, as in all diseases of an assimilative or secretive character, is controlled by a nervous influence. His methods of reasoning are interesting, instructive, and quite conclusive. A very large part of the work is devoted, very properly, to therapeutics, in which, of course, colchicum, alkalies, regulation of diet, and exercise, receive a full and well-merited share of consideration.

The Physiology of the Domestic Animals: A Text-book for Veterinary and Medical Students and Practitioners. By Robert Meade Smith, A.M., M.D., Professor of Comparative Physiology, University of Pennsylvania. 8vo. pp. 938. Philadelphia and London: F. A. Davis. 1889.

This elaborate and well-illustrated manual is a very satisfactory *exposé* of comparative anatomy, and is an exponent of the laws of modern physiology applied, as far as possible, to the functions of the lower animals. It is, from the present stand-point of our knowledge of physiology, a retroactive study or comparison between corresponding functions throughout a wide range of natural law. Although more especially intended for veterinary students, there is much of interest in it for the student of physiology. In fact, there is scarcely a chapter which does not convey information in a novel and attractive manner. This is particularly the case in those parts of the work treating of the different varieties of apparatus, as applied to the respective functions to be performed in the lower animals, as compared with those in the human being. The subjects of locomotion, digestion, secretion, and procreation are models of clear and satisfactory exposition, and are replete with suggestive and instructive analogy. It compares favorably, as the only English work of its kind, with others of its class in the German and French languages. Of its thoroughly scientific character, and of its admirable arrangement and division of topics, too much of commendation cannot be given.

The Principles and Practice of Surgery. By John Ashhurst, Jr., M.D., Barton Professor of Surgery and Professor of Clinical Surgery in the University of Pennsylvania. Fifth edition. 8vo, pp. 1148. Philadelphia: Lea Brothers & Co. 1889.

The general field of practical surgery is as well worked over in Ashhurst's "Surgery" as in any work of its size in any language. It has thoroughly fulfilled the original design of its author, "to furnish, in as concise a manner as may be compatible with clearness, a condensed but comprehensive description of the modes of practice now generally employed in the treatment of surgical affections." This last edition has been considerably and profitably amplified.

The Urine, the Common Poisons, and the Milk. By J. W. Holland, Professor of Chemistry in Jefferson Medical College. Pp. 84. Philadelphia: P. Blakiston, Son & Co. 1889.

A Laboratory Guide in Urinalysis and Toxicology. By R. A. Witthaus, Professor of Chemistry, New York University Medical College. Second Edition, pp. 73. New York: William Wood & Co. 1889.

These laboratory guides follow the beaten track for the students in the institutions of their respective authors. Both are of the note-book typography and contain interleaves for the student's own observations. Professor Holland's section on the study of milk deserves special notice.

A Surgical Handbook for the Use of Students and Practitioners. By Francis M. Caird, M.D., and Charles W. Cathcart, M.D., Assistant Surgeons Royal Infirmary, Edinburgh. Philadelphia: P. Blakiston, Son & Co. 1889.

Into this pocket manual of 262 pages the authors have condensed the practical parts of surgery, including antisepsis, emergencies, bandaging, etc. In fact it is hard to see how the art of condensation could profitably be carried further. It is just the book to have at hand for ready reference, and is a perfect mine of information systematically arranged.

Obstetrics and Nursing. By Theophilus Parvin, M.D. Pp. 104. Philadelphia: P. Blakiston, Son & Co. 1889.

These lectures were delivered to the pupils of the Philadelphia Hospital Training-School for Nurses, and cover the usual ground. They can be read with profit by all obstetric nurses.

Second Biennial Report of the North Carolina Board of Health. Edited by Thomas F. Wood, M.D.

A systematic report, full of the usual statistical tables, county reports, etc.

Diseases of Women. By F. H. Davenport, M.D., Boston, Mass. 12mo, pp. 317. Philadelphia: Lea Brothers & Co. 1889.

The author attempts no originality, as the work is a compilation from recognized authorities. The treatment is confined to those measures which the writer has found by personal experience to be of most value. Pathological anatomy has been left out. The book has some good points, but is on the whole unsatisfactory. It is evidently written for the Boston student population.

Swedish Movement and Massage Treatment. By Professor Hartvig Nissen, Washington, D.C. 12mo, pp. 128. Philadelphia: F. A. Davis. 1889.

The history of this therapeutic measure is first given, and then a description of its various methods of application. Part II. is devoted to the practical use of these methods in treating the sick. The style is plain and the various movements easily comprehended. Though we are not disposed to underrate the value of massage as a therapeutic agent, we are a little incredulous as to its value in certain maladies mentioned by the author. The book is of value as an introduction to a more elaborate study of the subject.

Extra-uterine Pregnancy. 8vo. pp. 66. Philadelphia: William J. Dornan. 1889.

This discussion is reprinted from the "Transactions of the American Association of Obstetricians and Gynecologists" at their meeting in 1888. The various phases of the question are argued by Drs. Townsend, Price, Montgomery, Wathen, Baldy, Deaver, McMurtry, and Vander Veer.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON THEORY AND PRACTICE OF MEDICINE.

Stated Meeting, November 19, 1889.

R. C. M. Page, M.D., Chairman.

Therapeutic Action of Electricity.—Dr. A. D. Rockwell read a paper on "The General Therapeutic Action of Electricity." The literature relating to the treatment of disease by electricity, he said, had accumulated beyond measure, and yet there existed so little correct appreciation of the physics of this agent that it was necessary to emphasize again and again the statement that electricity is not a simple, single manifestation of natural force, but a generic term including many complex phenomena. Much, indeed, was claimed for it; but it accomplished much, and produced effects widely divergent.

In the first place, it was a stimulant, and a stimulant of the most powerful character. Again, it was a sedative, and one which in some cases was unequalled; and it could generally be relied upon to soothe, in a greater or less degree, a functional hyperæsthetic condition of the nervous system. Furthermore, admitting the recognized significance of the word tonic, and that remedies for improving the tone of the system still held an important place in the classification of the Materia Medica, electricity could not but be regarded as a tonic of a very high order. To produce that tension of the nervous system, and of the muscular fibre generally, so as to enable them to respond to their natural stimuli, the mechanical effects of the faradic current seemed to be especially applicable. Unlike the galvanic current, it possessed no chemical action or reflex effects which need be feared. Properly applied it would not produce any appreciable muscular contractions, and yet it gave passive exercise to all the deeper-lying as well as superficial muscles. The numerous branch-currents, going to and fro, acted as so many shuttlecocks, keeping every atom in incessant disturbance.

Aside from these purely mechanical effects, it was evident that even the induced or faradic current exerted some other and more subtle influence upon the nerves themselves, for by no purely mechanical means could we account for the numerous phenomena that followed its use in diseased conditions. It was the application of the broad therapeutic action of electricity and a knowledge of the details of the general methods of application necessary for its production that had aided in the success of so many charlatans. Electricity, then, after the method of general faradization, might be said to be indicated whenever a constitutional tonic influence was called for.

This law rendered the remedy as valuable to the general practitioner as to the specialist in electro-therapeutics. For the tedious period of convalescence which often followed typhoid and other fevers there was no remedy that was comparable to it, and in a large number of conditions of depressed vitality electricity, in some one of its forms, would prove of service. In addition to giving passive exercise to the muscles, it rendered more natural the processes of secretion and excretion, corrected circulatory disturbances, and afforded tone and strength to both nerve and muscle.

With these general principles in view, we ceased to wonder that electricity was used and recommended for such a variety of diseases, and appreciated the injustice of the criticism which condemned electricity because it was claimed to be of service in so many different conditions. When its therapeutic efficiency was denied, the inevitable conclusion at which those must arrive who had, time and time again, witnessed evidences of its power, was, that he who thus fails in his results is deficient in his experience, is not sufficiently persistent, or has somehow failed in the technique of his applications.

Some of the results in electro-therapeutics were probably due—though only to a limited extent—to physical effects. Thus, there was unquestionably a small amount of heat excited in the tissues by the passage of either form of current. Having spoken of the well-known physical effects of electricity on metals as suggestive of what might be facts in physiology and pathology sufficient to account for some of the therapeutic effects of electrization, he said that these possible physical and physiological changes applied especially to the after or secondary effects of electrical treatment. The chemical or electrolytic influences that were associated with electrical action were practically confined to that form of dynamic electricity which was termed galvanism. Its special utility was in the department of electro-surgery; but it was undoubtedly true that some electrolytic action occurred in all ordinary applications of galvanism to the body, while it was probable that it was a factor of more or less importance in making up the sum of electro-therapeutic effects. A distinction had very justly been made between electrolysis, which was a disintegration and separation of the constituent elements of organized structure, and galvano-chemical cauterization, which produced its effects by means of the acids and alkalies which were liberated at either pole by electrolytic action. It was the chemical galvano-cauterization, and not electrolysis, which accomplished most of the good results that followed intra-uterine applications in cases of endometritis.

Influence on Nutrition.—In its influence on nutrition, however, the physiological effects of electricity are perhaps the most important. The action of either current modified physiological function in various ways. In the first place, it might increase it. The readiness with which the secretion of the salivary gland could be increased was readily demonstrated. Mucous secretions were also very quickly increased by the action of either current, and the effects of electricity were being utilized more and more in diseases characterized by a suppression of the normal mucous secretion. Especially in the so-called dry catarrh was the treatment efficacious. The effects of electricity on the biliary secretion, the gastric juice, and the intestinal fluids were less easy of demonstration; but Dr. Rockwell's experience had been that appetite was sharpened, digestion quickened, and constipation relieved, both by local and general electrical treatment, so rapidly as to make it pretty evident that the gastric and intestinal juices were made to secrete more liberally by the action of the current on the nerves supplying the organs of digestion, rather than on the tissues of the organs themselves. These results had also been recently confirmed by Ziemssen by experiments on animals. Among those affections of the bowels in which electricity was quite certain to exercise a beneficial influence were defective innervation, atrophy of the muscular tissue, digestive atony, and the wide section of diseases comprehended under the name of hypochondriacal and neurasthenic.

Electricity might not only diminish, but it might arrest the physiological activity of the organs of secretion and excretion. When, as in polyuria, the general application of the current was followed by a marked diminution in the flow of urine, it has a desirable therapeutic effect; but the effect now referred to was by no means of this character, and came from the use of currents so strong as to paralyze glandular function. Thus he had known two cases in which lacteal secretion was promptly suppressed by the injudicious use of currents of high tension; although, when properly applied, electricity often had a very beneficial effect in increasing the flow of milk, or in restoring the secretion after it had been temporarily suppressed. As regards the circulation, very sensible modifications might be observed in any strong and prolonged application of either current, and they were generally on the side of an increase in the flow of blood, and some elevation of temperature, with dilatation of the veins. On the absorbents the action of electricity had been found to be of practical value in relieving many hypertrophies, effusions, and morbid growths; and in explanation of this ac-

tion it was perhaps sufficient to say that the effects of electricity on the excretory processes of the body, its direct chemical action, and its influence over the circulation by its power to increase the quantity and quality of innervation received by the blood-vessels, must constitute most important factors in influencing the process of absorption.

Discussion.—Dr. Charles L. Dana said that he did not wish to appear as an apologist for electricity, as that was decidedly not the attitude which he held. He believed that what was useful in therapeutics would surely stay, and what was not would be gradually dropped, without any reference to dogmatic assertions of individuals or the high polemics of learned societies. He took this opportunity, however, of saying a few words about a little ewe-lamb of electro-therapy, viz., static electricity, and hoped to correct some erroneous views which had become current, and to state some facts about it which were not entirely old.

Definition of Electricity.—A recent writer on electro-therapeutics and physics had referred to electricity as a form of energy. This was a fundamental error, and showed a lack of grasp of the subject which was truly elemental. Electricity was not a form of energy, but it was a condition of ether, or electrical fluid, in a state of stress or motion. The same critic also spoke of "producing" electricity, which was as impossible and absurd as producing matter.

In static electricity the electrical fluid, or ether, was in a state of stress or strain, like a thin rubber band stretched to its utmost. When the strain was relieved there was a disruptive discharge, as when the elastic band broke. According to another analogy, static electricity was like a thimbleful of water raised to an immense height. When spilled, it gathered such momentum in its fall that a severe blow was struck. If the thimble was continually filled, and as rapidly emptied, we had a succession of static discharges which formed an intermittant electrical current. The electro-motive force produced by the fall was immense, being over thirty-three thousand volts; but the resistance met was very great, and the quantity of the fluid was small, so that the total effect in current-strength was ordinarily not great.

A single disruptive discharge consisted of a principal discharge, or current from positive to negative, with numerous minor oscillations. The static current, so called, was one made of successive and infinitely brief discharges from positive to negative, with accompanying oscillatory discharges. The static current flowed chiefly from plus to minus, but contained numerous minor oscillations. It was a current of extremely brief components. By using small Leyden jars, which filled and discharged very quickly, this current could be made almost continuous, and would cause chemical effects. The intensity of current-strength was the amount of electricity passing through a given space in a second of time. The static discharge occupied such a fraction of a second that its intensity or current-strength was hardly measurable; but its voltage, or electro-motive, force was, as already stated, immense. The intermittent current produced was, therefore, a peculiar one.

Physiological Effects of Electricity.—As to its physiological effects, it contracted muscles powerfully. In experiments made five years ago, Dr. Dana said that he showed that applied percutaneously it contracted viscera in animals, and probably in man. With a continuous galvanic current passing through a degenerated muscle, a static spark or current caused a contraction. The muscular contractions caused by static electricity had been stated to be due to a purely mechanical effect, like that of a whip. This was, he thought, a wrong view, for the reason that the sparks caused contraction when applied directly to muscle, while in order that mechanical irritation should cause contraction of a whole muscle it was necessary that it should be applied at the motor point. Also, because there was no apparent mechanical irritation, in the ordinary sense, when the static current was applied with wet electrodes. In the case of the spark, there was a sudden expansion of the skin at the point of contact from heat, but no deep mechanical disturbance. The question was not an important one, however. At most, it must be said that the static spark acted like the secondary current of a faradic battery, causing no measurable electrotonic effects.

Static electricity was applied in the form of a disruptive discharge, a spark in the form of the bath and wind, and by the current. The effects of the spark were well enough known. The effects of the bath and electric breeze had been inadequately stated. When a person was on an insulated stool, and charged, a series of discharges was going on from all parts of the body. This produced a cutaneous stimulation and a mental effect. This cutaneous stimulation had in some cases a peculiar physiological æsthesic effect. It was by no means psychical. It was not necessarily reflex in the ordinary sense, but belonged to the same class of physiological phenomena as those of metals. The evidence that certain metals had æsthesiogenetic power was undoubted, and he had abundant clinical evidence that electricity could act similarly. This particular physiological effect of static electricity had not before been pointed out. The static current could be used with moist sponge-electrodes through the clothes, or with wet electrodes upon the skin. The current caused tonic contractions of the muscles. It was not a pure single-direction current, but the most powerful discharges were always at the same poles.

Therapeutic Uses of Electricity.—As to its therapeutic uses, the special advantage of the static battery was in paralyses, with some spastic element, as in hemiplegias and paraplegias. Aside from this, its best results were in chronic, muscular, rheumatic, and neuralgic conditions, and in many sensory disorders (Eulenberg and others). It had a specific æsthesiogenetic influence in certain cases producing effects in a way similar to metallo-therapy—not by mental influence or suggestion. It had practically a very great value in dispensary clinics, where a good many cases of paralysis had to be treated. In nervous clinics, with few patients and abundant medical attendance, the faradic and galvanic battery might answer, and this might explain the indifference to static electricity by some of its critics; but in large dispensaries he considered it almost a duty to patients to have a battery which insured a prompt and efficient electrical treatment in all cases. Our mastery of disease, he said, in conclusion, was not so great, or our means of attacking it so ample, that we could afford to ignore a single measure that would help us in the fight.

Static Electricity.—Dr. J. H. Gunning said that he was glad to hear Dr. Dana speak in such favorable terms of static electricity, as he could testify to the correctness of his views; and it was with this form of electricity that his experience had been the most extended. He spoke particularly of its good effects in facial paralysis, stating that, instead of the treatment extending over four or five months, as was the case, according to many critics, when the galvanic or faradic current was employed, under static electricity only as many weeks were often all that were required for a cure. The first patient whom he treated in this way was a well-known physician, a member of the New York Academy of Medicine, and in this case the recovery was accomplished in six weeks. He had also used this agent with success in paralysis of the lower extremities and various other forms of paralytic trouble.

Faradic Current.—As to the faradic current, he had had excellent results with it in gynecological practice, and particularly in its capacity as an emmenagogue and sedative. As an emmenagogue it had not infrequently proved efficient when all other methods of treatment had been tried in vain. In some cases of obstinate vomiting it had also proved of special service. He thought that one reason why electricity sometimes proved an unsatisfactory method of treatment was because it was not given with the same care and attention to details as was the case with other remedies.

Dr. Henry D. Chapin read a paper on "1, The Auriculo-ventricular (Presystolic) Sound; 2, Some Considerations on Cardiac Disease in Early Life" (see p. 4).

Dr. Andrew H. Smith said that he was not one of those who believe in the existence of a presystolic murmur as distinct from the diastolic, and having a mode of production and a significance of its own. There was a presystolic murmur, but it was only a continuation of the diastolic murmur, re-enforced by the contraction of the auricle. If the orifice was greatly narrowed, and especially if it was irregular, the flow of the blood through it would cause a sound during the ventricular diastole and before the auricular systole. If, on the other hand, the orifice was less contracted and less irregular, the blood would flow through it silently until its flow was hurried by the contraction of the auricle, when a murmur would be developed. This supplement to the diastolic murmur had no different significance from the latter, and he could see no good reason for giving it a special name. But there was a murmur which precedes the first sound of the heart (what Dr. Sansom called a before-first-sound murmur), which he believed was systolic, and not presystolic. It occurred in those conditions in which, from some general cause, the heart murmur is enfeebled, and the ventricle becomes temporarily dilated. The transverse diameter of the cavity is increased, and the length of the chordæ tendineæ measuring the same, the valve-curtains are held away from each other, until, in the progress of the systole, the normal diameter of the ventricle is reached, when they come together. To illustrate this, suppose the normal diameter of the distended ventricle to be represented by 4, and the combined length of the opposite chordæ tendineæ to be also 4. This permits the curtains to float together, and to come into coaptation at the first instant of systole. But suppose that the ventricular cavity becomes dilated until its diameter is 5. Now, the combined length of the chordæ tendineæ remaining 4, it is evident that at the beginning of the systole the curtains will not be able to float into contact, but will be held apart from each other a distance represented by 1. As the systole progresses they will approach each other, and when the diameter of the cavity is reduced to 4 they will meet, and the valvular sound will be produced. But, meantime, they have been prevented from performing their office, the orifice has not been closed, and blood has been flowing back into the auricle, and giving rise to a systolic murmur, which nevertheless preceded the first sound. Murmurs of this kind are transient, disappearing as the strength is restored, and the heart-muscle recovers its tone. His experience, Dr. Smith said, coincided with that of Dr. Chapin as regards the tolerance of cardiac disease in early life. He had seen children with severe endocarditis, accompanied by very marked valvular lesions, go on for years, apparently suffering but little inconvenience. He recalled especially the case of a boy, three and one-half years of age, who, eight years ago, had a systolic murmur so loud that it could be heard distinctly when the ear was two or three inches from the chest, and who had all along run and played with other boys, apparently in perfect health. This murmur was still there, though greatly reduced in intensity; but the unfavorable prognosis which he had given eight years ago seemed as far as ever from being verified.

Dr. W. H. Katzenbach said that he had recently had occasion to look up some statistics, and he had collected four hundred and twenty eight cases in which the left side of the heart was affected. In considering these he had been struck with the large number of cases of presystolic murmur met with in young women of from eighteen to twenty-eight years of age. It was surprising, he thought, to find how frequently this murmur exists without the presence of any symptoms; and this was the more remarkable from the fact that a considerable proportion of the cases occurred in servant-girls and others who took a great deal of active exercise. It was characteristic of this murmur that it often disappears and then reappears again. In many instances it would disappear when the patient took the recumbent posture, and come back again when an erect position was assumed. In others a moderate amount of exercise was required to make it appreciable to the auscultator. As to the prognosis, he had been astonished to find how well the condition was borne, not only by children, but by adults also. In conclusion, he called attention to one symptom frequently met with in mitral stenosis which he thought had not been sufficiently regarded, and that was bloody expectoration.

Presystolic Murmur.—Dr. Alfred L. Loomis said that he did not suppose that there was any doubt in the minds of auscultators at the present time as to the existence of a presystolic murmur. There was a time when the question of the reality of such a murmur might have been raised; but now he thought there could hardly be two sides to such a question. We had been accustomed to consider three classes of presystolic murmurs, viz.: 1, The hæmic; 2, the congenital; and, 3, those depending on chronic endocarditis.

In the first class of cases, as the blood-making power of the patient was recovered the murmur would disappear; and it would return again whenever conditions having an unfavorable effect upon this function occurred. This hæmic variety he had observed sometimes in connection with nervous phenomena in children. Congenital mitral stenosis he believed to be of not infrequent occurrence, and as an illustration of it he mentioned the case of three sisters, whose ages ranged from eight to sixteen years, whom he had seen when in charge, some years ago, of the class for diseases of the heart and lungs at the Demilt Dispensary. In each there was a very distinct presystolic murmur, with purring thrill and all the conditions necessary for the diagnosis of the condition in question. No cause could be ascertained for the existence of mitral stenosis, and there was no question in his mind that the trouble was congenital. Such a condition did not interfere particularly with the comfort of the individual. It was to be borne in mind that all heart-murmurs, as well as the ordinary sounds of the heart, were much louder and more diffuse in children than in adults, on account of the thinness of the chest-walls; and hence a murmur which might seem very terrible in a grown person ought not to be regarded with as much apprehension in the case of a child.

As to the presystolic murmur due to endocarditis, it seemed to him that no one who was accustomed to see these cases during life, and to observe the pathological conditions met with after death, could hesitate to acknowledge that the condition presented was sufficient to produce such a murmur, through the agency of the "buttonhole slit."

These murmurs were often independent of systolic murmurs, and sometimes were present in addition to the latter. As far as time was concerned, indeed, we might have a large number of murmurs, as the presystolic, the systolic, the post-systolic, the diastolic, and the post-diastolic. It seemed to him that while we were, and had been, accustomed to talk a great deal about cardiac murmurs, they were not really the essential element to be considered, were not really of practical significance. To be of importance they must be accompanied by changes in the cavities and walls of the heart and in other parts of the system, and this was especially true as regards mitral disease.

Rheumatic Children.—In children of a rheumatic habit endocarditis was very frequent, and it often occurred long before any evidence of rheumatism presented itself. It was, in fact, due to the same cause as the latter disease, and if treatment were resorted to sufficiently early the case might never go on to fully developed rheumatism. Although this point had not been referred to in the paper, the connection between endocarditis and pericarditis was also very close, and the latter often occurred in children. Dr. Loomis said that, so far as his experience went, aortic disease was not frequent in chil-

dren. Mitral disease was the variety commonly met with, and if nature provided sufficient compensation, a child affected with such trouble might go on to adult life without suffering any inconvenience.

Dr. H. N. Heinemann said that we must admit that both at the base and apex of the heart we get all sorts of hæmic murmurs. As he understood it, the object of the paper was the discussion of that particular form of mitral disease which is recognized by definite pathological lesions and accompanied by a distinct sign indicative and pathognomonic of it. He had recently collected a considerable number of statistics from the medical clinic at the College of Physicians and Surgeons, the Roosevelt Hospital, and other sources, and of the cases thus tabulated 153 were in children. Of the 153, thirty seventy-fifths were cases of mitral regurgitation, and twenty seventy-fifths of mitral obstruction; while the proportion of aortic affections numbered respectively only one seventy-fifth, two seventy-fifths, and three seventy-fifths. The observations of Dr. Loomis as to the comparative frequency of mitral lesions and infrequency of aortic lesions in children were thus confirmed by these statistics.

For the mitral presystolic murmur we had a satisfactory cause in over eighty per cent. of the cases in the infectious diseases. As to the symptoms accompanying this form of murmur, it had been his experience to find that in a large proportion of cases more or less præcardial pain was complained of. It was well known, too, that of all cardiac murmurs met with, the presystolic was most readily distinguished without applying the ear to the chest; so that it was often possible to make the diagnosis as soon as the ear was brought within two or three inches of the chest, although, of course, no auscultator would depend on this without making a direct examination. The bloody expectoration, to which attention had been called by Dr. Katzenbach, was also a valuable sign.

In conclusion, Dr. Heinemann stated that, according to his observations, the presystolic murmur in children often disappeared when adult life was reached, the mitral disease having developed into aortic trouble.

Dr. Edward G. Janeway said there could be no doubt that there was a presystolic murmur resulting from mitral stenosis; but, as Dr. Smith had remarked, it was diastolic as well as presystolic. For a long time some authorities hesitated to accept the existence of the presystolic murmur, their doubt being based on the supposition that the auricle has not sufficient force to produce such a murmur. It could be positively demonstrated, however, that in reality very little force was required for this purpose.

As regards the prognosis of mitral stenosis, he said that his experience had led him to take a less hopeful view of the condition than had been expressed in the paper, and by some of those who had taken part in the discussion. He had found that quite a number of cases died, and sometimes comparatively suddenly. In illustration he related the case of a young woman who died one hour after her admission to the hospital, the only lesion found after death being mitral stenosis.

The prognosis, however, was not to be based simply on the existence of the murmur, but rather on the condition of the cardiac valves and walls, as well as that of other organs, like the liver, lungs, kidneys, and spleen. Sometimes these patients did fairly well as long as they were free from other troubles; but if they became affected with any other disease, or condition, as anæmia, for instance, serious symptoms would at once make their appearance. It was a fact that well-to-do people, who had easy lives, lived much longer with mitral stenosis than those among the working-classes, whose active life necessitated more work for the heart to do.

Dr. J. Lewis Smith said that he had collected seventy-five cases of organic heart trouble in children from his service at the out-door department of Bellevue Hospital, the oldest of the patients being twelve or thirteen years of age. As to the etiology of the cardiac disease, in fifty-five it was directly attributable to rheumatism, and in five to scarlet fever. In twelve, the previous history of the child, so far as it could be ascertained, threw no light on the causation of the difficulty. He said that his experience coincided with that of others as to the comparative mildness of rheumatism in childhood, and it could not be doubted that there were a great many "walking cases" of the disease. Parents would state that their children had not complained of pain, or, if they did so, the circumstance was attributed to "growing pains," and regarded as a matter for congratulation, as indicating an increasing robustness of the constitution. So far from this being the case, however, such "growing pains" were too often the evidence of a condition which caused irreparable damage to the heart. The occurrence of rheumatism was thus frequently overlooked, and hence the opportunity was missed for the employment of treatment which would avert the impending danger of permanent cardiac disease. As pointed out by Dr. Loomis, an endocarditis might occur without the existence of rheumatism. He had met with a few such cases, and, as a rule, rheumatism made its appearance subsequently in their history.

Scarlet Fever.—As to the causative relation between scarlet fever and organic heart trouble, nothing definite was known at the present time; but it was an undoubted fact that in a certain proportion of cases of scarlatina what is known as scarlatinous rheumatism occurred about the second week of the disease. Endocarditis or pericarditis might also be met with.

Rheumatism.—Rheumatism was now regarded by many bacteriologists as a microbic disease, and it might be that the cardiac lesions were due to ptomaines produced by the rheumatic poison. Of the twelve cases of disease of the heart in which there was no assignable cause, he was inclined to believe that a considerable proportion were attributable to attacks of rheumatism which had entirely escaped notice.

Differential Diagnosis.—Dr. Smith then spoke of the differential diagnosis between true cardiac disease and malformation of the heart. He stated that some years ago he had collected from various sources some two hundred cases of the latter, and he had found that the malformation which was most frequently met with was an absence of the commencement of the pulmonary artery, or its obstruction or occlusion. He thought it not improbable that in a considerable number of instances we had to do with malformation rather than endocarditis. In the two hundred cases of malformation which he had examined he had met no record of congenital mitral stenosis, of which Dr. Loomis had spoken, and it seemed to him probable that in cases which appeared to be of this character the trouble was really due to malformation of the right side of the heart.

In the seventy-five cases spoken of the most frequent murmur met with was the mitral regurgitant, occurring in forty-seven instances. The next most common was the presystolic, while the aortic murmurs were the rarest. As to the matter of prognosis, it was his conviction that we are in the habit of regarding in too favorable a light these valvular lesions in childhood. In dispensary practice most of the cases are lost sight of in a comparatively short time; but he had found in private practice that in many cases dilatation and hypertrophy became developed in the course of two or three years, and subsequently the cardiac trouble terminated fatally. In only one instance, where he was able to follow the case along for six or eight years, did he meet with an embolism. It was perhaps worthy of note that in eighteen out of the seventy-five cases chorea was present, a fact going to substantiate the recognized causative relation between cardiac disease and this affection.

Dr. William H. Thomson said that it seemed to him strongly probable that the disappearance of presystolic murmurs, which had been well marked in early life, was in reality due to the supervention of other conditions. It was necessary to look beyond the murmurs, to look beyond the valves, to the vascular system. On account of the

normal condition of the arteries, children had a great advantage over older persons. The moment that arterial changes occurred, however, a direct effect was produced upon the heart, and the result was hypertrophy and dilatation of the left ventricle. Dilatation and regurgitation through the mitral orifice took the place of the mitral stenosis, so far as the murmur was concerned. Hence it could be seen how such a murmur would disappear by reason of the subsequent changes, the starting-point of which was arterial obstruction. It was a well-ascertained fact that in cases of mitral stenosis in early life the left ventricle was noticeably small; but if the children in whose cases autopsies were held had lived longer, it would have been found that the ventricle had become greatly enlarged.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, December 23, 1889.

ALEXANDER S. HUNTER, M.D., PRESIDENT, IN THE CHAIR.

The Treatment of Chronic Nasal Catarrh.— DR. O. B. DOUGLAS read a paper entitled, "Is the Cure of Chronic Nasal Catarrh as Difficult as has been Supposed?"

What Is a Cold?— After some preliminary remarks on the important position taken by the nose among the organs of the body, the author asked, What is a cold? And replied that we recognize a cold as the beginning of that condition which later became a chronic catarrh. Various theories had been advanced with regard to the process by which such results were brought about. He thought the following was near the truth: The heart, in its action, sent out a definite quantity of blood at each pulsation. At some point the capillaries refused to take their portion. Cold may have constricted their calibre, and this overplus had to be disposed of. Provision had been made for this when the erectile tissue of the turbinated bodies had been created. It accepted the surplus blood, and relieved the arterial capillaries, but itself became over-distended. Safety must be sought. The signal danger was sounded by sneezing, and we called it taking cold. Serum exuded from the cavernous tissue, swelling subsided, and respiration was relieved, or congestion remained and suppuration followed. This, however, was not the whole story. Other factors played their part, but the nose was the adjudicator, the balancer of blood-pressure, giving the danger signal when distant organs were not receiving their allowance of the circulating medium.

Chronic Catarrh.—He had not come with any wonderful and new catarrh cures. In fact, he had no new medicine or instrument to offer. Electricity in its various forces might be convenient, chromic acid was excellent, the nasal forceps, saw, etc., were useful; but skill and judgment were required as much as instruments and medicine. It was important, if possible, to remove the cause of the catarrh, particularly if it consisted of a pathological or abnormal anatomical condition of the nasal passages. Laryngitis, pharyngitis, tonsillitis, faucitis, conjunctivitis, otitis, etc., were all found in patients who had thickening of the middle or inferior turbinated bodies interfering with respiration, or other obstructions in the nose, and the author believed that catarrhal conditions resulted more frequently from these obstructions than from all other causes together. He did not mean occlusion of the passages necessarily. If there was contact, though slight but persistent, of surfaces not normally in contact with each other, one would find inflamed tissue beyond. Perhaps the most frequent obstructive cause was thickening of the middle turbinated body, with more or less pressure on the septum nasi. Secretions were retained, they became acrid, flowed down, and caused congestion and inflammation of the tissues beyond.

The patient complained that he was hoarse, secretions dropped into his throat, he had hawking, coughing, profuse expectoration, headache, ringing in the ears, poor appetite, eyes suffused, spells of sneezing, took cold on the slightest exposure, was nervous, felt feverish, and in general did not feel well. We looked at the tongue, found increased redness at the base, the uvula relaxed, elongated, the tonsils congested, enlarged, the glands inflamed, the lateral walls red and swollen, nasal pharynx generally inflamed, etc.; examination of the nose under the influence of cocaine—he used a ten per cent. solution—revealed possibly as a causative lesion hypertrophy of the middle turbinated pressing on the septum, or other deformity. This might be overcome with the trephine, or the actual cautery, or, in some cases, with chromic acid, or saw, or forceps. Dr. Douglas usually employed the forceps. It was not a difficult operation, but it was done better and easier after practice. One should take away sufficient tissue to free the passage, but was cautioned against unnecessary destruction of tissue. As in all surgery about the nose, there occurred at times more than an ordinary amount of shock. As stated, there were many forms of nasal obstruction, and it was possible that he had lain too much stress on hypertrophy of the middle turbinated. As long as the cause continued to act the results would certainly follow; catarrh was always more or less difficult to cure, and long perseverance was sometimes necessary, but it was not an incurable condition, and the worst cases were frequently those which recovered soonest, because the patients were thoroughly in earnest and were willing to pay the price of success.

The conclusions were: 1, The nose is not an unimportant organ, as some would suppose, but, physiologically and pathologically, is of first importance; 2, its position and functions expose it to injury and disease; variable temperature, chemical and mechanical irritants, as well as its normal functions perverted, tend to produce disease; 3, its diseases yield to appropriate treatment as certainly as those of any other complicated organ; 4, so-called catarrh is not a disease *per se*, but a symptom or result of other lesions; 5, chronic nasal catarrh is usually due to nasal obstruction; by this is meant not necessarily occlusion of the nostril, simply habitual contact of surfaces which are not normally in contact; 6, removal of the cause is always the first step toward cure, and this frequently requires surgical interference. Local and general medication are secondary, but by no means of slight importance; 7, the nose and its diseases are deserving of more attention from the general profession, because the consequence of neglect is far-reaching and serious; 8, chronic nasal catarrh is not as difficult to cure as I formerly supposed.

Operations for Stenosis.—DR. H. H. CURTIS said he could add but little to the subject, which had been presented so tersely and appropriately by Dr. Douglas. Regarding operations upon the nose for stenosis, he might say that he was unable to recall a case in which he had had any important [illegible]

the time when he was in Vienna, and witnessed Schroeder trying to replace the septum, or rejuvenate the mucous membrane of the turbinated bone by the use of gelatine suppositories, and persisting with the treatment three times a week for two and three years, and then looked upon the rapidity with which patients having the same nasal troubles were cured to-day, it seemed to him that we had made greater advance of recent years in the treatment of nasal diseases than any others. Even to-day, however, instruments were for sale in the shops which had been entirely discarded by those who kept pace with the advance in

rhinology, and pointed to the fact that there were some of the general profession whose treatment of nasal affections was little more scientific than that of the quack. He approved of the remarks of Dr. Douglas concerning the influence of hypertrophy of the middle turbinated in the production of nasal catarrh, and believed in some cases there was adhesion between the turbinated bones and the nasal septum. He here took out the entire turbinated bone, and found that in after-years the result of the treatment was very satisfactory. He had never seen an acute attack of gout precipitated by operations on the nose.

Dr. W. C. Phillips found himself in sympathy with the author of the paper. It was generally stated that chronic nasal catarrh was a result of repeated attacks of acute nasal catarrh. We were now confronted with the statement that it was generally the result of obstructive trouble in the nose, and this he believed to be true. Where obstruction from hypertrophy of the turbinated existed with catarrh, it should be removed, and personally he preferred the forceps for this purpose. In the large majority of cases it was the superior, not the inferior, turbinated bone which was hypertrophied. The patient should be kept in the operator's office, say two hours after the operation, instead of being sent home with a cotton pledget in the nose to prevent hemorrhage.

Catarrh a Form of Malnutrition.—Dr. Kitchen thought he must take somewhat the negative side of the subject as far as it had been discussed. He quite agreed with the author that chronic nasal catarrh was not so difficult to cure as was generally supposed, yet he was firmly of the opinion that the profession in general, and the specialists, had nothing to be proud of in this direction. There was no doubt that a certain number of cases could be cured by operative procedures, and he had done his share in the surgical direction, part of which he was ashamed of. The reason why we could not have better therapeutic success in diseases of the nose was the fact that we could not remove the causes. In the vast majority of cases where we operated, it was to remove the effects of the disease, not the cause. When one considered the usual causes, he would admit at once that a cure was often out of the question, simply because those causes could not, under present surroundings, be removed. Chronic nasal catarrh was, in his opinion, a form of malnutrition, as were many other diseases. We were living most unhygienic lives, and it was practically impossible to alter that mode of life in the majority of cases. A change to a correct mode of living and to a suitable climate, would cure most cases of chronic nasal catarrh where the cause was not due to hereditary malformation, traumatism, etc.; but how few people could so change their lives! When they continued in their former course, the specialist might afford some alleviation of the symptoms, but he could not cure the disease. We must not expect to accomplish the impossible.

Hypertrophied Turbinated Bones not always so Bad.

One Nostril Always Freer than the Other.—Dr. Beverley Robinson said he was not prepared to state anything new at all. With part of the discussion he agreed, with other parts he disagreed. He was disposed to think too much stress had been laid upon nasal stenosis and the necessity for surgical interference. Asking the gentlemen present to press first upon one side of the nose and then upon the other, breathing through each nostril alternately—those who could breathe through either side equally well, were requested to raise their hands. Very few hands went up. But nearly all raised their hands when asked if they could breathe through one nostril better than through the other. It followed that a certain amount of obstruction or deformity was not incompatible with health. But where this obstruction was a cause of nasal catarrh in the first place, or of its continuance, it should be removed. But there were other things to be taken into consideration which the specialists were too apt to overlook; such as those relating to food, air, diathesis, general hygiene.

Operations on Rhinologists.—Dr. W. F. Holcombe doubted whether there was a specialist in diseases of the nose present who would undergo the operations upon the nose to which he subjected his patients. He had himself suffered much from nasal troubles, yet as soon as he went to a high altitude in Colorado, his nasal symptoms disappeared. They returned when he came back to New York. Probably all patients called incurable would get better in a higher, dryer climate. Nasal catarrh was often due to reflex irritation from a distant part of the body, and would disappear with the cure of the latter. Those troubled with ethmoiditis had been much relieved by lying down and dropping a few drops of a four per cent. solution of cocaine into the nose (not spraying it in). Quiet the nervous condition, free the sufferer from pain, and the swelling of chronic nasal catarrh would diminish. He wouldn't give a cent for caustic applications.

Believed in Treating the General System.—Dr. Messenger said that he had tried to relieve patients with chronic catarrh of the mucous membrane of the nose and ethmoiditis, which had been incidentally mentioned in the discussion, and had succeeded; he believed also that Dr. Douglas, and others, had relieved their patients for a time, but he did not believe at all that they had effected a cure. Were they able to change the climate, the constitutional influences, the mode of life of their patients? He believed in treating the general system which gave most hope where it could be carried out. In the way of local treatment, nothing was better in his hands than a solution of salt or soda snuffed up the nose.

Dr. Douglas closed the discussion.

Correspondence.

OUR PARIS LETTER.

(From our Special Correspondent.)

THE CAUSE OF FEVER—ANTISEPTIC PROPERTIES OF LIME—CARE OF EYES OF SCHOOL CHILDREN—HEREDITY OF MYOPIA—THE STUDY OF TUBERCULOSIS.

Paris, December 6, 1889.

In a paper recently submitted to the Academy of Medicine, Dr. Roussy stated that fever is often the result of soluble, non-organic principles, but of microbian origin, being introduced into the animal economy. He has ascertained that injecting into the blood or under the skin water in which different organic matter has been macerated, also determines a febrile condition. He has isolated the pyrexogenic element, and concludes from the results of his experiments that certain diastases or zymoses (soluble ferments) have a febrile influence; the water in which the yeast of beer has been macerated is given as an instance.

Drs. Richard and Chantemesse have made a series of experiments published in the *Revue d'Hygiène*, relative to the antiseptic properties attributed to lime against the typhoidic bacillus and the cholera bacillus. According to these experiments, a solution of lime of the consistence of milk possesses properties superior to those of the chloride of lime and of corrosive sublimate, in the proportion in which they are habitually employed. The authors have disinfected fecal matters with this solution of lime, but only fecal matters in a liquid form can be so treated. When it is necessary to disinfect a cesspool in which the dejections of typhoid, choleraic, or dysenteric patients have been emptied, it is sufficient to pour a solution of lime into the cesspool. If the matters in it are in a state of putrefaction, it would be necessary to wait until, in the

first instance, the ammonia which the lime displaces from its saline combinations be disengaged, and in the next, until a portion of the lime be thus lost by disinfection. The liquid should be stirred with a wooden stick in order to facilitate the escape of the ammonia, and to render the mixture homogeneous.

Dr. Matais, of Angers, lately read a very interesting note at the Academy of Medicine on the hygiene of the sight in the schools of France. The author stated that in Germany, in Switzerland, and in some other countries, it was admitted as demonstrated that scholastic studies had a dangerous influence on the sight. Many medical men, however, considered that if myopia was so frequent in Germany, it was owing to a predisposition of race, and the absence of serious researches permitted one to affirm that this ocular affection was rare in France. Dr. Matais had examined 5,000 young subjects in the centre of France, and he found that myopia attained in the students of rhetoric, or of philosophy, the proportion of forty-six per cent. In Germany this proportion is fifty-seven per cent., and it is fifty per cent. in Switzerland. Thus it will be seen that the difference is not very great, and this is sufficient to admit that the causes of myopia in France are analogous to those of myopia in Germany. The influence of the school is otherwise established by the fact that, in the lower classes, myopia is almost completely absent; it rises to seventeen per cent. in the third class, and mounts to forty and forty-five per cent. in the classes of philosophy. Myopia is complicated in three-fourths of the cases of other ocular affections, often very grave, and the importance of remedying such a state of things may be well understood; and this can only be done by modifying the present system of hygiene in schools. To effect this, it is necessary that the pupils should work with a good light, seated on a bench placed near to the table receiving the light from the side, and preferably from the left side. The body should be kept straight, the writing should be straight, and the books should be printed with large new characters, and on yellow paper. The interruptions should be frequent during the hours of study, to which recommendation Dr. Matais attaches great importance. He shows that at the Military Prytanæum and at the School of Arts and Industry at Angers, myopia is relatively rare, although the hygiene is not better than in the colleges, because the interruptions in their work are frequent. At the school of Angers the studies are interrupted by manual work. At the Prytanæum, where the studies are well regulated, and they do not last more than an hour and a quarter, the recreations are passed in games or active exercises. Finally, Dr. Matais proposes that a service of inspection should be created, which would permit the oculist to examine the pupils and to prescribe opportune treatment, which would prevent divers ocular troubles.

At a previous meeting of the Academy, Dr. Matais read a note on the "Heredity of Myopia." The author had examined the familes of 330 young myopic subjects, and arrived at the following conclusions: 1. The hereditary influence of myopia is manifest. 2. It exists in 216 out of 330 families. 3. Hereditary myopia is characterized by its early appearance, its comparatively rapid development, and the high average of its degree. 4. Myopia is transmitted by the father to the daughter 86 times out of 100, and by the mother to the son 79 times out of 100. Heredity is crossed.

The second Congress for the study of tuberculosis will be held at the end of July, 1890, under the presidency of Professor Villemin. The following are the subjects pro-

should send their names with a postal order for 20 francs to the General Secretary, Dr. L. H. Petit, 11 Rue Monge, Paris.

ONCE MORE THE ACTING ASSISTANT SURGEON.

To the Editor of the Medical Record.

Sir: So far as I know the Acting Assistant Surgeons in actual service have been quiet since the last Congress adjourned. But some friends who had the push to get out while still young enough to fight for existence, have kindly taken up the fight which had been laid down by us. And here let me state that I have been requested to correct an error into which you fell in a late editorial. So far as I know, Acting Assistant Surgeons have never been subjected to examination further than to ascertain that they are graduates in regular medicine from recognized colleges, and are men of good character and correct habits.

I have just read the articles of Dr. Brodie, of Detroit, and Dr. Nagle, of New York, in your issue of November 30th, and fully agree with both. The Acting Assistant Surgeon is very like a weasel, and also very like a camel. Certainly he is at perfect liberty to resign if he does not like his position. But when the second lieutenant of infantry received the maximum pay of sixty dollars per month, and all others in proportion, they were at perfect liberty to resign, but very few availed themselves of it. Instead of resigning they worked steadily for more pay, until now the maximum pay of the army is: Second lieutenant of infantry, $163.33; of cavalry, $175; first lieutenants, $175 and $186.67; captains, $210 and $233.33; and so on to the end of the chapter. The staff corps are paid the same as cavalry. They also enjoy indefinite sick leave on full pay, or retirements on three-fourths of duty pay. There is not in all the world another class of men of the same average merit so bountifully provided for.

And yet, considering the nature of the service, and the fact that they forego all the prizes which tempt ambitious men in the world, their pay is none too much. But while this is true, Dr. Brodie might have added to the fact that the Government can get all the Acting Assistant Surgeons it wants at the present rate of pay, the further fact that Congress could reduce the present rate of army pay to $1,000, $1,200, $1,500, $1,800, $2,000, and $2,400—the latter being the pay of a colonel—in addition to incidental allowances, and still fill every position in the army with men of the same average ability as now. The clamor for civil positions is enough to prove this. Men would prefer the fixed to the doubtful tenure. But would such action be just or expedient on the part of Congress? I think not.

But there is no divinity which condescends to hedge about an Acting Assistant Surgeon. Some ten years ago, in the interest of the surplus, his pay was reduced from $1,500 to $1,200 per annum. He cannot get a leave, either for pleasure, business, or sickness, without forfeiting every cent of his pay for the time. Civilian clerks get a month annually on full pay. Commissioned officers get the same, with the privilege of accumulation for four years, when they can go for four months on full pay, and, perchance, a year more on half pay.

But we are not complaining. If we don't like our positions we can resign! We have been told that before.

All this agitation grew out of the cases of a few men who rendered service in the War of Secession, and have served more or less continuously since. The "army habit" got too deep a hold upon them, and they have gone on until too old to take the world by the horns, but still are haunted by the consciousness that even their present pittance is not secure against any caprice of politicians or others who may wish to urge young men for their places.

Let us suppose the case of one of the men responsible

Case II. is one of a tailor, twenty-seven years of age, thin and anæmic, who three and a half years before had contracted syphilis in the usual manner, and had shown the typical sequelæ. When received at the hospital in April, 1886, he showed none but the following florid

[1] Paper read before the German Medical Society of New York, November 4, 1889.

for this agitation. We will assume that he served three years, or four, as Regimental, Brigade, and Division Surgeon of Volunteers. He is mustered out, and enters civil practice, but in a few years finds the "army habit" asserting itself so strongly that he takes a contract, hoping for better to follow. He has served, let us say, twelve or twenty years on the plains, often in surgical charge of important posts and expeditions. In the course of events he is relieved of some post by a gentleman in uniform who is no way his superior in general culture or professional ability and experience, and who has rendered fewer years service than himself, but receives two and a third times his pay, besides all the other blessings which hedge about the army brass and blue. Now, if this old Acting Assistant Surgeon is very foolish and inconsiderate, he may growl and insinuate that he deserves better of his country. It is so easy for men to be self-conscious, and, instead of resigning, persuade themselves that their country is the party under obligation.

It was in this state of mind that, two years ago, about twenty of the ungrateful growlers contributed $350, and signed contingent obligations of a much larger amount, which they entrusted to one of their number who should lead an assault upon Congress for their betterment. There was no attempt made to bribe Congress, the fear of which justified some in withholding contributions, but the money was turned over as a retainer to a prominent Claim Agent in Washington who agreed to look after the interests of his employers.

The Acting Assistant Surgeon entrusted to lead the fight assailed Congress upon its head and not upon its pocket, with a respectful prayer, backed up with strong letters of endorsement from Generals Schofield, Crook, Stanley, Merritt, and Ruger, and possibly others. Result: A bill, introduced "by request," and after the fat was all fried out of it, a substitute was reported restoring our pay to $1,500 per annum, but was never called up for action. And why not! In all probability not one of the subscribers had voted since the war, and only one has been suspected of influencing a vote, so far as I know. And to avoid misapprehension, let the writer assert most positively that he is not the one suspected.

The gentleman who led the assault upon Congress has been urged to renew the fight, but has declined, because he believes that there is between him and Congress an impregnable barrier. All that he now seeks is to be "let alone," and allowed to die with the harness of a grateful country upon him.

Still, for the comfort of those who left us at the right time, and who have notions, I will state that my belief is that Acting Assistant Surgeons should be appointed by warrant; should be uniformed when on duty with troops; should have the same longevity increase of pay as commissioned officers; at least a month's pay annually on leave, if they want leave; and have the same forage and other allowances as Commissioned Surgeons. Why not?

S. S. Turner,
A. A. Surgeon, U.S.A.
Camp Sheridan, Wyo. Terr.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 22 to December 28, 1889.

De Witt, Calvin, Major and Surgeon. Leave of absence granted for one month, to take effect not later than January 1, 1890, with permission to apply to Division Headquarters for an extension to include February 27, 1890.

Brown, Paul R., Captain and Assistant Surgeon, now at Trinidad, Col. By direction of the Secretary of War, will report in person to the surgeon in charge of the Army and Navy General Hospital, Hot Springs, Ark., for admission to and treatment in the hospital. Par. 16, S. O. 296, A. G. O., December 20, 1889.

Official List of Changes in the Medical Corps of the United States Navy for the week ending December 28, 1889.

Stone, E. P., Passed Assistant Surgeon. Ordered to the Independence, Mare Island, Cal.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 28, 1889.

	Cases.	Deaths.
Typhus fever	0*	0
Typhoid fever	23	6
Scarlet fever	65	3
Cerebro-spinal meningitis	3	1
Measles	51	7
Diphtheria	93	30
Samall-pox	0	0
Varicella	5	0
Cholera	0	0

* Three cases of suspected typhus fever have been sent to North Brothers Island Hospital for observation.

The Psychology of Living.—What may be described as the psychology of living is the mental state produced by the circumstances of life upon mankind. This condition varies largely not only with each individual person, but almost with each nation, and is, practically speaking, purely a matter of temperament. It is the nature of some persons always to be despondent, however much their surroundings may conduce to serenity of mind and to a favorable view of life. This despondency may not necessarily be due to any mental deficiency; it is oftentimes merely the reflex of a temperament which is as natural in its development as is the growth of an arm or leg. Neither does it necessarily lead to suicide, but when the circumstances of life happen to become somewhat more exacting and are deprived of their roseate hues, then the act of self-destruction is taken seriously into contemplation, and is often consummated. Such a person acts toward himself as in other ways he acts toward those with whom he comes in contact. He shuns a person whom he dislikes, and he claims to decide for himself whom his friends shall be. Similarly, he decides that he objects to living, and proceeds forthwith to destroy himself. It is impossible to believe for a moment that all suicidal acts are the outcome of mental aberration. There is no doubt Voltaire was right in holding that the possession of a large amount of courage was necessary before a person could take his own life. But so much is it the case that most suicidal acts are primarily dependent upon a naturally despondent temperament that it is quite possible to believe if every despondent person with no better prospects than Mr. Micawber were gifted with the sanguine impressions of that individual, we should quickly hear less of the illogical act of suicide, and less of the complaints of the burdens of life. A sanguine temperament is unquestionably a most valuable possession, and, moreover, a highly serviceable acquisition in furthering the aims of life and in advancing the interests of those to whom it belongs. Mr. Micawber was no impossible creation of the great novelist's mind; there are, happily, [illegible] which they are habitually employed. The authors have disinfected fecal matters with this solution of lime, but only fecal matters in a liquid form can be so treated. When it is necessary to disinfect a cesspool in which the dejections of typhoid, choleraic, or dysenteric patients have been emptied, it is sufficient to pour a solution of lime into the cesspool. If the matters in it are in a state of putrefaction, it would be necessary to wait until, in the

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Original Articles.

ON THE SUBCUTANEOUS GLANDULAR AFFECTIONS OF THE LATE STAGE OF SYPHILIS (GUMMOUS OR TERTIARY BUBO OR LYMPHOMA).[1]

BY SIGMUND LUSTGARTEN, M.D.,

NEW YORK.

SOME personal observations, which I have had the opportunity of making during the past few years, form the basis of the following communication. The chapter to which this subject belongs has not been sufficiently studied, and is not even mentioned in many of the leading works on surgery and syphilis, although, on the border-line between these two branches of medicine, it invites the study of both surgeon and syphilographer.

CASE I.—Male, aged thirty-six, driver, was received in Professor Kaposi's wards in February, 1885. The history concerning previous syphilitic affections is negative. For two years there has existed on the left side of the neck a tumor, which is sensitive on pressure, but rarely painful. Examination shows a waxy, pale coloration of the skin, and relaxation of the muscles. Internal organs normal. In the region of the left side of the neck is a tumor considerably larger than the fist, extending from the mastoid process along the line of the jaw and sterno- cleido-mastoid muscle, and reaching beyond the median line. The tumor is not movable in any direction, and is seen to be composed of nodes ranging in consistence from firm to soft, and, as it were, massed together. The boundary line above is sharply defined, but in the opposite direction is diffuse. At some points fluctuation can be felt. The skin overlying the tumor is in places movable, but for the most part is adherent; it is of normal color or slightly hyperæmic over the firm masses, and dark reddish, tense, and shiny over the softened areas. In the left supra-clavicular region there is to be found a second fluctuating tumor of the size of a walnut, also covered with dark red and very shiny skin. Indolent swelling of the inguinal glands of each side and of the left cubital region. Spleen normal.

Treatment.—Inunctions, Zittmann's decoction, potassium iodidi. As the tumor begins to decrease in size under the specific treatment, its composition becomes more striking, and it is seen to be made up of nodules of different ages, partially bound together by nodulous lymphatic vessels, the softened spots contract, and the fluctuation disappears. After eight weeks of treatment the patient was discharged, his general health was much improved, the tumors having decreased to fibrous indolent nodules the size of an almond or hazel-nut. He was ordered, during the following two months, to alternate each week between potass. iodat., 2.0 gm. a day, and hydrargyrum tannicum oxydulatum in daily dose of 0.2 gm., and to take Turkish baths.

CASE II. is one of a tailor, twenty-seven years of age, thin and anæmic, who three and a half years before had contracted syphilis in the usual manner, and had shown the typical sequelæ. When received at the hospital in April, 1886, he showed none but the following florid symptoms: In the right inguinal region an orange-sized tumor composed of conglomerate nodules up to the size of an English walnut, mostly of firm consistence. The tumor, which was fixed to the underlying tissues, was painful on pressure, and sometimes spontaneously so in the night. Over the summit of the tumor the skin was shiny, of a brownish-red color, and showed fluctuation. In other parts the skin is somewhat movable over the swelling. In the neighborhood the lymphatic glands are affected by scleradenitis in a mild degree, as also in all other palpable regions of the body. Treatment as in Case I., besides tonics and locally emplast. hydrarg.

Involution followed the regular course until, after six weeks of treatment, the patient was cured. Both these cases are types of uncomplicated isolated gummous lymphadenitis.

CASE III.—Differing in some respects from the foregoing was Case III., male, thirty-five years of age, pale and stout, who was recommended to me for surgical treatment by Professor Kaposi. Neither was the patient, who was weak-minded and a descendant of an old family, nor his travelling companion able to give any history of a previous attack of syphilis. Examination showed: Soft sore in the sulcus coronarius, and acute suppurating bubo, the size of an apple, in the right groin; internal organs normal, no signs of syphilis.

Treatment.—Free incision of the bubo, evacuation with a sharp spoon, and iodoform bandage. The course was normal until, in the fourth week, the necrotic parts were eliminated; the wound had taken a healthy action and the cavity was nearly closed, when the picture was suddenly changed. Without pain or fever, the base and surroundings of the wound became indurated, the wound spread open again, and the base appeared lardaceous and of grayish white color.

In spite of all therapeutical efforts, change of local applications, the use of tonics, etc., we had before us again, after three weeks, a firm, indolent, uneven bubo of the size of the fist. I could then not help thinking that metamorphosis *in situ* was due to a new pathological process complicating one already existing; in other words, to a sort of *mixed infection.* As neither the course nor any symptoms indicated scrofulosis or a malignant tumor, a gummous infiltration was thought of as the most probable explanation, and this was very soon proven, by the effect of specific treatment, to be the case. As soon as the latter was begun, involution also promptly commenced, the wound closed, and after three weeks an increased fibrous resistance alone indicated the former site of the lesion.

It is probable that in this case the previous bubo process had produced in the affected lymphatic glands a *pars minoris resistentiæ* in which, supposing a predisposition to exist, a syphilitic infiltration could easily develop. I shall be able to quote in the following pages similar cases from literature. The strikingly rapid involution in this case I would explain by the short duration of the gummous affection.

CASE IV. is one of a girl, aged eleven years, well developed, but a deaf-mute, whom I had the opportunity to examine, at a consultation in a Vienna hospital, in the spring of 1889. The patient, who suffered from nocturnal cephalalgias, showed an oblong, grayish-yellow, caseous tumor of the size of an egg in the left supra-clavicular region. The skin was wanting over its centre for a diameter of six centimetres, while the margin showed the

[1] Paper read before the German Medical Society of New York, November 4, 1889.

characteristics of a syphilitic infiltration, both in color, consistence, and other qualities. The glands in the neighborhood were firm and enlarged in a slight degree. Under a treatment of mercurial plaster and the iodide of potash a cure rapidly followed, as the house physician afterward told me, the headache disappearing and the general health improving.

Whether this case was one of syphilis hereditaria tarda, or one of acquired syphilis, I could not possibly decide, as all history was wanting and likewise all auxiliary aids, excepting, perhaps, the symptom of deaf-mutism, which is of very dubious value. This case is also interesting because it shows us that that form of caseous degeneration may take place in the subcutaneous glands which hitherto had been observed only in gumma of visceral glands.

I beg leave to give, as concisely as possible, a review of the literature of gummous lymphadenitis.

The first reported case is one by Potier, 1842, who described an instance in many respects similar to Case II. Salneuve, 1852, demonstrates the possibilty of tertiary adenitis. Des Ruelles, Sarrhos, Cahen, report single observations on adenitis in tertiary syphilis, which is also the theme Potain discusses in his thesis "Sur les Lésions des Ganglions viscéraux."

General attention was first called to the subject by the publications on "Constitutional Syphilis" by Virchow, and the well-known work upon "Syphilis" by Lancereaux. To the first-named fundamental work I shall repeatedly refer in the course of my remarks. Lancereaux, speaking only of the deep glands, says: "The study of the syphilitic alterations of these glands dates only from recent years. Swediaur acknowledges that in his time there existed not a single authentic observation of these lesions. To-day the deep tertiary adenopathy is anatomically better known than that of the superficial and subcutaneous glands. The reason for this is that there is given a much better opportunity for microscopical investigations." Most frequently the abdominal glands are diseased, and, secondly, the bronchial and mediastinal. He further says: "The affections of the (visceral) glands must be reckoned among the most frequent, and as showing the most constant alterations of tertiary syphilis. They bear the same relation to visceral syphilis that swelling of the subcutaneous glands bears to syphilis of the skin, *i.e.*, they are a necessary concomittance." From this time syphilis of visceral glands was acknowledged without any further opposition.

Verneuil saw in a male patient, after amputation of the leg, the development of a large firm tumor in the groin, which ulcerated; the ulceration extending to the deeper parts as well as to the surrounding surface, and by eroding the femoral artery, caused death from hemorrhage. Verneuil supposes the tumor to have been a gumma of the glands, developing in consequence of the previous surgical trauma. Two additional cases are published by Bourdon, under the auspices of the above observer, both females, with tumors of the glands in the inguinal regions who were cured or improved under the iodide of potassium.

At about the same time an important publication was given out by Campana, upon the swelling of glands in constitutional syphilis. Of the great number of cases which, with the exception of four, belong to the secondary stage, we will refer to the following one only: A female, infected ten years previously, presented an ulcerated gumma beneath the chin, two glands the size of a walnut upon the right side of the neck, and upon the left side an equally large fluctuating swelling, which, upon incision, poured out a small quantity of yellow fluid containing débris of tissue. Cure by iodide of potassium. Fournier also has observed a submaxillary tumor, coinciding with an ulcerating syphilis of the lip and jaw; and Homolle a supra clavicular adenitis, with a gumma of the tonsil and a gumma of the cubital gland, subsequent to a gummous skin eruption of the forearm. Furthermore, two out of the four observations of Virchow contain references to the affection of superficial glands.

Nearly all of the cases mentioned, as well as a number of those which follow, contain instances of gumma of glands complicating other tertiary processes. The observations of glands affected in an isolated manner are of more importance, but are much less frequently referred to (about twenty cases, including our own four observations above given). If the first group demonstrates by the complications the syphilitic nature of the affection, and removes every doubt of their existence, the second is of importance because it shows the difficulty of diagnosis in some cases, and the clinical resemblance to malignant tumor, and especially to malignant lymphomata.

Referring to the last-named affection, I quote from Homolle an observation of Birch-Hirschfeld, in which the gummous infiltration had invaded so great a number of glands that it was thought, until the post-mortem, to be a generalized malignant lymphoma; and a second case of lympho-sarcoma of Wunderlich, which Wagner interpreted to be a gumma of the glands.

Mauriac, in 1878, signalized the similarity of certain gummata of the glands with chancroidal buboes, and mentions three cases in which suppurating buboes of rather acute development had transformed themselves into serpiginous ulcerations. The acute course in these cases makes it probable to me that here, as in Case III., which I have above cited, there was a syphilitic infiltration subsequent to acute suppuration (possibly produced by blennorrhagia).

Gonnet publishes two observations of Fournier and Besnier, respectively: one, a male, with ulcerating syphilis of the lip and submaxillary glandular gummata; the other, a female, who, after ulceration of the face and nose, with perforation of the palate, showed gummata on the supra-clavicular glands. Ramage gives three observations from Fournier's clinic, of ulcerous gummata of the inguinal and submaxillary glands in undoubted syphilitic persons, and from Quinquaud and Fay, each one case of gummous clavicular and cervical glands, respectively.

In an important work on gummy tumors, Langenbeck, 1881, reports the following case: A female, forty-two years of age, who gave a rather dubious history of syphilis, showed in the right groin, below Poupart's ligament, a very painful, rounded, firm tumor, the size of a fist, fixed to the underlying tissue, and with an uneven surface. The diagnosis of the neoplasm, which had been growing during a period of six months, lay between carcinoma and sarcoma. On account of scar-like callous concretions, the operation of removal proved so difficult that part of the tumor which enveloped the vessel was left behind. The extirpated mass was declared, after microscopical examination by Langenbeck and Virchow, to be a gumma. The patient succumbed to pyæmia.

A further case of Langenbeck should probably be classed with these. In a female, aged fifty-three, there was a tumor painful to the touch, of the size of an egg, upon the right side of the neck. The diagnosis of carcinoma was made, and the new-growth excised. As in the former case, numerous firm concretions rendered the operation difficult, and made necessary the extirpation of the jugular vein at the same time. The tumor proved to be a granuloma, and Langenbeck had still less doubt that he had operated on a gumma since two years later the patient suffered a relapse and showed specific ulcerations of the tongue and palate. Had the latter manifestations of the disease not occurred, probably this instructive case, as I dare say many others, would be still in doubt. Langenbeck, being at that time at the very summit of his clinical experience, cannot forbear to observe, on the same article: "It would be of the greatest importance to find some means of recognizing gummy tumors with certainty, a thing which will be so much the more difficult, because characteristic features are in many respects lacking; and we must unfortunately acknowledge that neither the external appearances of the tumor nor the concomitant subjective and objective symptoms will prevent mistakes of diagnosis. To this must be added that not even the macroscopical

and microscopical appearances of the extirpated growth have at all times such characteristic qualities as to exclude errors with certainty. "Pathological anatomists advance similar views. Thus Virchow (on tumors) states that the differentiation of granular tumors from sarcoma is very hard, and that they might be considered a subdivision of sarcomas, to the small-celled variety of which they bear a close connection. In the ante-bacterial period the appellation scrofulous sarcoma was commonly employed. Ziegler says: "There are not rarely formations of tissue to be seen which suggest new-growths, and it is often difficult to decide by microscopical examination whether lymphatic glands enlarged to the size of a tumor should be ranked among the neoplasms or as inflammatory or hypertrophic exuberances. The decision here is rather oftener dependent upon the clinical course of the tumor in question, which is known from experience, than on the histological examination."

After this short digression, let us return to our theme. Cunningham refers, under the title, "Case of Supposed Lymphadenoma," to a male patient, thirty-five years of age, who had an enormous tumor extending from the middle of the neck on the right side to a point several inches below the nipple, while on the left side the glands were enlarged. McCall Anderson, the eminent clinician of Glasgow, whose advice was asked on this case, thought that it might possibly be syphilitic, and ordered kali iodatum, which, indeed, had so striking an effect that the syphilitic nature of the affection could no longer be doubted. Cooper reports briefly the case of a male, whose supra-clavicular regions were both filled with large, soft glands. The pale and cachectic patient was undoubtedly syphilitic, and a cure was effected under a specific treatment. Furthermore, Lannois and Lemoine describe the two following interesting instances: A male, thirty-four years of age, who had four years previously acquired syphilis, developed in the right groin a firm tumor of the size of an orange, painful to the touch, which subsequently softened and suppurated. In the further course of the disease the process extended to the femoral vein, and caused phlegmasia alba dolens. Under a specific treatment the patient recovered after two months and a half. A female, nineteen years of age, vigorous but anæmic, with syphilis of three years' standing, showed very firm and slightly painful tumors in both groins, some reaching the size of English walnuts. Cure under mixed treatment. My friend Lannois has quoted my above-reported Cases Nos. I. and II., the latter of which I had the pleasure of demonstrating to him during his stay in Vienna, while I informed him of the former case by oral communication. I have also previously written upon the present question in the article "Bubo," in Villaret's "Dictionary of Medicine," and I there put forward as a fourth form of bubo the "gummous or tertiary bubo."

Lastly Esmarch, in an important discourse (on the etiology and diagnosis of malignant growths), delivered at the Surgical Congress of last year in Berlin, states, from his own experience, though without citing special cases, the existence of tertiary syphilitic lymphatic tumors. The speaker is positive that a great part of the new-growths, which are generally called sarcomata and extirpated, belong in reality to the syphilomata. "A syphiloma may remain as a tumor during many years without increasing. If syphilomata are extirpated, relapse very soon occurs, together with all other symptoms of malignancy." The above remarks apply especially to tumors of the lip and tongue, but we are justified in applying to glandular gumma what in general is stated in regard to syphiloma. Esmarch goes so far—too far, in my opinion—as to advance the hypothesis that in many cases the development of tumors, especially of sarcoma, has a connection with a disposition inherited from syphilitic progenitors.

Before constructing a clinical picture from the material presented, some points deserve special attention.

In our own Cases Nos. I. to III., as well as in some observed by others, there has been noted a marked anæmia of greater or less intensity. I have no doubt that there is a connection between this and the disease of the glands, though not characteristic of the original process. It is well known that in affections of the numerous lymphatic glands, paleness, chloranæmia, troubles of digestion, etc., as a general rule show themselves. In one group, to insist upon one chief feature alone, the blood is found to be much richer in lymphatic cells at the expense of the red blood-corpuscles (leucæmia and leucocythosis in syphilis). In another group the blood is found impoverished in its formed elements, hæmoglobin and dissolved albuminous substances—oligæmia (pseudo-leucæmia, glandular affections in syphilis, scrofulosis, etc.). In both cases the consecutive disorder of assimilation and respiration may lead to a sort of cachexia and marasmus. Between the two forms transitions may also be observed, and it is very probable that, as Virchow has already supposed, mechanical factors may at the same time be at work. Supposing the hypertrophic glands to be in activity, and the channels leading from them to be free, the blood will be overcharged with lymphoid cells; on the other hand, and which is more frequently the case, if the productivity of the glands is interfered with by necrobiosis or by reason of obstructions in the lymphatic ways, in such manner that the cells are crowded in the hypertrophic tissue, then the formation of white blood-corpuscles is retarded.

Those features are of much importance in a clinical sense, because they may give to a comparatively benign process, as in the present instance to syphilis, provided that it attacks lymphatic glands, the character of malignancy (leucæmia, pseudo-leucæmia).

Concerning the course of subcutaneous gummous adenitis, it corresponds to the schema which Virchow has marked out for gumma in general. According to this we distinguish three stages: (1) Stage of simple irritation. The intercellular substance remains gelatinous and preserves a certain coherence. Similarity to hypertrophic course. (2) Medullary stage. The proliferation of cells prevails, the intercellular substance softens, the mass of the tumor breaks down, with pus formation. Similarity to heteroplastic processes, like medullary carcinoma and sarcoma. A number of the histories quoted in this paper illustrate the propositions just made also for gumma of glands. Finally, (3) the caseous stage. The cell-proliferation is but little abundant, the intercellular substance increases, the cells preserve the character of connective-tissue or granulation cells, fatty degeneration takes place, and results in the formation of a dry yellow node of the internal organs. Of this form we have only one instance in Case IV. above cited. This pathologico-anatomical scheme elucidates and completes in a clear manner that which the clinical course suggests, and it is of much importance to bear it in mind, because it points out the erroneous ways in which the diagnosis may lead.

Now let us review the clinical features.

Of subcutaneous glands, tertiary syphilis attacks most frequently the inguinal, secondly the glands of the neck, especially the submaxillary and intra-clavicular (Cunningham, Langenbeck, Homolle, Cases I. and IV. above cited, etc.); much more rarely the cervical, axillary (Cunningham), and the cubital glands (Homolle).[1]

Rarely a single gland is affected (Langenbeck, our Case IV.); in the rule one chain of glands, or the glands of one or several regions (Cunningham, our above Case I.).

The diseased glands present themselves as roundish, oval, firm, elastic, at times hard, tumors of uneven nodular surface (Cooper alone reports soft tumors), or they appear as masses softening in the centre and possibly fluctuating, or they may appear caseous. The two forms

[1] It may be that the relative frequency of implication of the inguinal glands is only apparent, being less often overlooked. The mental association between inguinal bubo and syphilis is even more firmly established than that between syphilis and other glands. Still it may be that the inguinal glands, which in the early stage of syphilis in genital infection are the most implicated, also show more frequent relapses in the tertiary stage.

first named are often found associated, and observation demonstrates that the second form is evolved more or less rapidly from the first.

The size of these lymphomata varies from a cherry to that of an orange, most of them being of English walnut size.

The glands are in general indolent or somewhat sensitive to the touch; sometimes, especially during the night, a dull or lancinating pain may be felt. The occurrence of excessive pain, such as is common in malignant neoplasms, is rare (case of Langenbeck).

The gummous lymphomata appear in the beginning movable upon one another and upon the underlying tissue. After a longer duration firm cicatricial-like tissue is formed which fixes the glands to one another and binds them to the parts beneath, extending into the septa of the fascias, and enveloping the vessels and nerves in such a manner that operation for their removal may present very great difficulties. In some cases glands more or less distant from each other are seen to be connected by nodular lymphatic bands of the size of a quill.

The skin over many of the glands is movable and remains so, while over others it is coextensive with the capsule. If then the gland softens or becomes caseous, the skin is mostly involved. It becomes infiltrated, and successively red, brownish, or livid. Then, after the capsule of the gland is perforated, the skin becomes thin and shows, at least when ruptured, a mellagenous, viscous mass which contains débris of tissue, or the mass is more puriform and of a grayish-yellow color. More rarely the skin becomes gangrenous and is exfoliated over a diameter of several centimetres, and shows a characteristic syphilitic ulceration of the gland, or one which has become caseous. In other cases the process extends after the perforation to the skin, and causes an extensive serpiginous, ulcerating syphilide (Verneuil, Mauriac). The latter course forms an interesting analogy with lupus vulgaris, developing at times in the skin over scrofulous glands, especially at the point of perforation of the skin.

The tertiary lymphadenitis presents itself (1) concomitant with, or subsequent to, other syphilitic lesions (Virchow, v., vi., xi.; Campana, i., ii., iii.; Gonnet, etc.). At the same time visceral affections may be present. (2) In a predisposed individual, subsequent to surgical or other traumas; or in glands which a previous disease has rendered a *pars minoris resistentiæ* (Verneuil, our Case III., and possibly Mauriac's cases). (3) As single manifestation of the disease (Potier, Verneuil, Bourdon, Cunningham, Cooper, Langenbeck, Wagner, Birch-Hirschfeld, our above Cases I.–III.).

The affection develops and runs its course in general in a chronic manner. The lymphomata may persist during many months, and even more than two years, as hard tumors, though more frequently, after several months duration, single tumors become softened. As is generally the case in tertiary syphilis, the power of spontaneous cure is very slight or totally wanting.

In the beginning of the affection leucocythosis has been observed (Virchow). If the disease is of longer standing and many glands are implicated, the symptoms of a more or less marked oligæmia (chloranæmia) may make their appearance and lead to cachexia.

The age of the affected individuals varies from eleven to fifty-three years, being most frequently found in the third and fourth decennium.[1]

A suitable antisyphilitic treatment brought about a cure in all the cases.

A glance at what has preceded will show that the affection with which we are occupied presents a great similarity in a number of clinical aspects with several other processes. Here also the Proteus-like nature of syphilis is manifest in its imitation of other morbid conditions.

[1] As the disposition, in the first and second decennium of life, to affections of the lymphatic system is well known, the fact that so few observations are reported at this period suggests that the affection is often confounded with scrofulosis.

On the whole, it must be said that tertiary lymphomata will often be properly recognized if, after all, we bear more constantly in mind the possibility of their existence. In which case it may also happen that one will see shades of difference which have an important bearing on diagnosis, and which may be more readily perceived than described, or made understandable to others. In all dubious cases the old rule of experience holds good: *In aubiis suspice luem.*

To touch only upon the question of differential diagnosis—for in the present state of our knowledge it is not possible to exhaust it—it is observed that glandular gumma, when a single gland is affected, may be confounded with primary carcinoma or sarcoma (in a restricted sense) of the glands, enchondroma, scrofulosis, actinomycosis. Sarcoma, in general, will be differentiated among other things by its rapid growth, enchondroma by its very slow development and great firmness, whereas the great rarity of primary glandular carcinoma, in dubious cases, will lead to the supposition of gumma. In scrofulosis, that is to say, tuberculosis, there is, besides the differences of course, complications, color, etc., the theoretical difference shown by bacteriological examination. I use the term "theoretical" because in practice the demonstration of bacilli in glandular pus often does not succeed, and experiments on animals are not always easily carried out; and for the further reason, that unless the latter are made with all the precautions of modern bacteriological technique, they will more than ever give rise to misleading diagnosis. On the other hand, actinomycosis will readily be excluded by demonstration of its characteristic microorganisms.[1]

If many glands are attacked, there come into consideration the primary simple hypertrophies, an affection not elucidated, which is especially described by older French authors as frequently occurring in the army; the scrofulous, that is to say, tuberculous glands; the leucæmic tumors, which, in addition to the examination of the blood, are further characterized by their extension in a flat manner and by softness; and the malignant lymphomata (pseudo-leucæmia, Hodgkin's disease). Although in respect to the latter the gummous lymphomata are characterized in general by greater inclination to softening and ulceration, and by a more slow and benign course; yet the above-quoted cases of Wunderlich, Birch-Hirschfeld, Cunningham, and even our Case I., demonstrate how difficult diagnosis may sometimes be.

If the glandular gummata are secondary to, or followed by, other symptoms of syphilis, there will be no difficulties encountered in forming a just estimate of the process.

In all dubious cases the diagnosis must be determined *e juvantibus*, and this so much the quicker as the possibility of degeneration (more properly called a complication) of gummata which have not been treated for a long time, into malignant tumors, must not be lost sight of. The injury which an uncalled-for specific treatment may produce is without importance in comparison with the beneficial therapeutical effect secured when the contrary is the case.

The treatment should be an energetic one, in preference a mixed treatment of mercurial inunctions and potassium iodidi, together with the administration, during several weeks, of Zittmann's decoction. After the disappearance of the symptoms excitation of assimilation and excretions by warm baths, Russian baths, massage, etc., and alternating weekly the internal use of iodate of potassium and mercury; besides dietetic measures, tonics, etc., according to the indications of each individual case.

Finally, let me say a word in regard to the designation "gummous or tertiary lymphoma," which is employed in the title and again several times in the text. It is desirable that it should be adopted, on practical grounds. Patho-

[1] Till now there exist no bacterioscopic examinations of glandular gumma; the reason being that by far the greater number of the cases have been observed in the ante-bacterial epoch, and that, upon the whole, the opportunity for microscopical examination is rare.

logical anatomy, it is true, defines lymphoma as a new growth having the character of lymphatic tissue. On the other hand, the designation "lymphoma," with the appropriate epitheton added, has been applied to purely hyperplastic or to chronic inflammatory processes, which in a clinical sense have the appearance of new-growths (leucæmic malignant lymphoma). It is in analogy with the latter to add tertiary syphilitic affections of the glands to lymphomata, and it is to be hoped that in consequence—by connecting the latter name with the suffix of lues—one will be aided in the proper recognition of the affection which I have described.

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THE PHYSICIAN'S PROPRIETARY ARTICLES, OR UNIFORM PREPARATIONS FOR OUR PHARMACOPŒIA—WHICH?[1]

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IF any of you, reading the announcement of this discussion, have attended under the impression that commonplace facts or pleasing generalities concerning our Pharmacopœia are to be brought forward, I beg at the outset to assure you that such is not my intention. The facts which we are to consider are not commonplace, and some of the generalities are, unfortunately, anything but pleasing. I ask your most earnest attention to certain considerations of the utmost importance to your success and to the welfare of the public whom you represent. Among the hundreds of subjects which will command the attention of the next Revising Convention—all of more or less general interest to us—one or two surpass all the others in importance. They underlie our success as practising physicians, decide annually the question of life or death for thousands of patients, ought to have been taken up and settled long ago, and present no hope of being thus taken up and settled until their discussion shall be undertaken by such bodies as your own. These are sufficient reasons why everyone present should take a peculiar and active interest in this discussion.

It is very generally claimed and admitted that the interest of physicians in the Pharmacopœia has declined, while that of pharmacists has correspondingly increased. If the interests represented by these two bodies were identical, such negligence on our part might be overlooked. But they are not. Not only are the relations of the pharmacist to the patient not such as to impress him fully with the result of pharmacopœial dictums, but his personal interests are in certain ways directly opposed to our welfare and to that of our patients. It is apparent that the pharmacist is a pecuniary gainer by the continuation of a looseness and an indefiniteness in official requirements. It is true that he ought, under such circumstances, to lay aside selfish considerations and conform his action to scientific and humanitarian standards. And so, in many cases, he does; but I fear that to a great extent such is not the case, as will be indicated by the following extract from the report of the Committee of the New York State Pharmaceutical Association on Adulteration:

"Of dilute acetic acid 15 samples were examined, the strength ranging from 1.9 to 26.8, only two being alike. How can it be possible," asks the committee, "for a doctor ever to be sure of his dose when the same prescription will in one store bring fourteen times more than in another? Seven samples of spirit of nitrous ether varied so greatly that the patient would need to take about a pint of one to equal a teaspoonful of another. Of 50 samples of Hoffmann's anodyne only 8 were of good quality, and only 5 others were even fair. Of 17 samples of iodide of potassium none came up to the pharmacopœial standard, and only 7 could be accounted fair. Of 40 samples of crocus, United States Pharmacopœia, not one contained any crocus at all. Out of 48 samples of precipitated sulphur only 18 were good, while a large number were positively dangerous." Almost all the other articles examined showed similar shocking imperfections.

This, gentlemen, is an official report, unwillingly rendered, it is to be presumed, by a committee upon the action of its confrères, and may therefore be considered as thoroughly trustworthy. I cannot believe that the situation is so bad in all States as it is in New York. I firmly believe, for instance, that a less bad state of affairs would be found to exist in the State of Pennsylvania. But, on the other hand, there can be no doubt that in seventy-five per cent. of our States the condition of things would be found even worse than that which I have here described. The illustration is quite sufficient to sustain my claim that in a large number of instances the pharmacists in active business in our country at large will concern themselves but little in reference to the quality of the goods which they handle, so long as we shall allow them to profit by neglecting such attention. So it is necessary that we should make, through the medium of the Pharmacopœia, and vigorously enforce upon them, our demands in those matters which materially affect the success of our efforts in combating disease. To two of these matters I shall confine my remarks.

I wish first to call your attention to the fact that it has been proposed, by a majority of the Committee of Revision, to introduce into the Pharmacopœia the protected article Antipyrin.[1] As regards the propriety of prescribing so useful and important a substance, there can scarcely be a negative vote. But the full significance of the introduction into the Pharmacopœia of so fully protected an article should not be lost sight of. The question of right in this case is one of extreme difficulty, and it is possible that it may at length be decided affirmatively; but if so, it should be only after the most thorough consideration and the freest discussion, and, being finally decided upon, the action should be taken in such a manner as to free it from its natural tendency toward opening the door to an official recognition of all manner of objectionable proprietary articles. If introduced, it should be only under some carefully framed proviso specifying the conditions which determine the action, and carefully limiting its effect as a precedent. Under no circumstances should the name Antipyrin be printed, either as the official name or as a synonym. Either the entire chemical name of the substance should alone be used, or an abbreviation of it should be coined for the occasion and duly advertised. It is a matter of some difficulty to induce physicians gener-

[1] Read before the Philadelphia County Medical Society, December 11, 1889.

[1] It should be noted that this proposition on the part of the committee was made in good faith. It seemed to them desirable that this important question should be discussed, and they took this method of promoting such discussion. At the same time, they were not fully informed as to the degree and character of protection which applied to the substance.

ally to discriminate between the different forms of protection in drugs and medicines. The ordinary patent insures to its beneficiary a monopoly for a limited time, and fully provides for the publicity and freedom of manufacture at the end of such time. Many of our ablest and most ethical members believe that it is both just and expedient that such privilege should be accorded the inventor in medicine and surgery, the same as in the mechanical arts. But the registering of a trade-mark gives to its owner a monopoly for all time, and places the question of supply and its regulation absolutely and forever at his pleasure. A trade-mark of this nature, which affords perpetual protection in the manufacture of an article, is not to be confounded with the perfectly justifiable trade-mark indicating the origin of an article. Thus a firm may select and register for its trade-mark the sign of an anchor, a seal, a combination of letters, or other device, designed solely to guarantee to itself the credit and to assume the responsibility for the quality of all goods bearing that mark. But a protecting trade-mark which is the name of a substance prevents anyone else from applying such name to the substances as manufactured or produced by them. Thus the owner of the trade-mark "Sulfonal," a foreigner, by the way, having registered the same under our laws, is forever freed from competition, either as to price or quality. He may become more avaricious with age, and impose upon consumers such a price as shall place the substance out of the reach of all but the wealthy. He may grow careless, and in the future supply a product comparatively useless, or even dangerous. Yet we have no redress. As in the case of antipyrin, the process by which it is produced is patented, the product as a product is patented, and the name under which it is known is trade-marked. Such a possibility is opposed to every principle of justice, humanity, expediency, and even good law. Our laws permitting it should be modified at the earliest moment, and, preceding such modification, every member of your delegation should plant himself firmly against the recognition by the United States Pharmacopœia of any trade-marked name, whatever may be decided in reference to the substance itself. Merely calling your attention to this point in passing, I leave it to be more fully discussed by your next speaker.

The second subject to be treated is of far more practical every-day importance to us, as it points to a defect in pharmaceutical preparations upon which depend nearly all the failures in medical treatment which do not proceed from the actual ignorance of the practitioner or the carelessness of the patient.

One of the most chilling and disheartening influences to which the student and the young practitioner are subjected is the want of faith by the older practitioners in the efficacy of drugs, and particularly of those of vegetable origin. This scepticism, either real or professed, is so wide-spread as to be almost general. But I believe that it results almost wholly from defects in the preparations of the drugs. Given perfect pharmaceutical preparations, and I believe that a want of faith in the reasonable certainty of medication should be construed as an indication of unfitness on the part of its author. And the attainment of such perfection, in the case of many of our most important pharmacopœial preparations, is not only possible but eminently practicable. My text will be found in this statement: *Adherence to the present directions of the Pharmacopœia for the preparation of fluid extracts and similar preparations insures no degree of uniformity.*

Which one of you who has practised physiological experiment would not deride the physiologist who would administer an experimental dose of the strength of which he did not have an idea which approached nearer than within two hundred or three hundred per cent.? If the distinguished physiologist of the University of Pennsylvania, or he of the Jefferson Medical College, were to read a paper on the action of some new alkaloid in which he should inform you that certain symptoms had succeeded the administration of one, or two, or three centigrammes, or thereabout, what an audible smile would go up from every part of this room; and yet you, when administering to your patient a uniform measure of a pharmacopœial preparation, are doing just exactly this thing. The dose which your patient at Tenth and Walnut Streets is receiving in a drachm of a given tincture may be two or three—yes, even six or eight—times as strong as that with which you are treating him at Nineteenth and Race Streets. Not only, gentlemen, do I say it may be so, but I tell you that it is more likely so than otherwise. I doubt if you, as a class, are well aware of the irregularity in strength of the preparations ordinarily dispensed at the prescription counter. The Pharmacopœia prescribes that for the manufacture of a pound of the fluid-extract coca, a pound of coca-leaves shall be used. If, instead of this, it directed that any amount from one to three pounds were to be used, according to the inclination of the pharmacist, what would you think of its value as an authority? Tell me, then, what is the difference between using one to three pounds, and using a single pound whose strength is allowed to vary between one and three hundred per cent.! It is certainly true that a pharmacopœial rule for the manufacture of fluid-extract jaborandi, for instance, by the use of a specified amount of leaves of a strength ranging between the ratios of one and three, is strongly, totally, effectually antagonistic to the efforts of the physician in treating the disease to which it is applied. I hold that, if such direction were to read, "from one to three pounds of leaves, according to their strength," such direction, however indefinite and absurd it might be, would be infinitely superior, in the results which it would produce, to the directions as they now stand. However ignorant any pharmacist may be as to the effect of the administration by a physician to a dozen patients of a dozen doses supposed to be equal, but in reality varying widely, it is positively certain that a competent physician is not at all ignorant upon this point. And certain it is, also, that that portion of pharmacists who are contending for the right to compel the physician to work with such dangerous preparations at his own risk, the pharmacist himself being protected by pharmacopœial permission, ought to secure nothing else than the hostility of such physicians. But, you ask, do our ordinary crude drugs vary to any such extent? I doubt if there are more than a dozen persons before me who have any approximate conception of the wide variation in quality and strength of the drugs from which the preparations of the Pharmacopœia proceed.

Two conditions of such variation confront us. The first I have already indicated in the tendency on the part of a great many practising pharmacists to work with the cheaper article, when—as is usually the case—money is to be made by so doing. Through this lack of principle alone, hundreds of tons of drugs are annually used which are nearly—perhaps absolutely—inert. Let me read another extract confirming my statements concerning the unscrupulous nature of many pharmacists. Commenting on a sale of drugs which took place in London on June 30th, the *Chemist and Druggist* says: "Cumin-seeds at 5s., gum elemin at 3s., and Curaçoa aloes at 16s. per hundredweight were only a few of the unparalleled bargains. There were jaborandi-leaves that might profitably have been passed through a wringing-machine; 40 bales of senna at $\frac{1}{32}$ of a penny per pound; areca-nuts at 1s. per hundredweight; and, finally, 66 pounds of scammony at 3d. per pound."

These drugs, gentlemen, were purchased by pharmacists for the purpose of being made up into pharmaceutical preparations; and there is not the slightest reason why a portion of them should not have been dispensed upon the prescriptions of some of you. Will you not, then, see to it that the proceeds of a similar sale in June, 1890, shall not find their way into the hands of your patients.

Secondly, we have to consider that many pharmacists who are disposed to deal honestly are careless, or even incompetent, in selecting the better of two samples.

. Lastly, and the clinching argument in the discussion, be the pharmacist ever so honest, capable, and careful, it is in many cases an absolute impossibility for him to ascertain, from its appearance, the imperfection of a given sample. We cannot, and we need not, here consider in detail the conditions on which such variations depend. But I will mention that I have myself demonstrated that in the case of coca-leaves very wide variations in strength are caused by age of plant, degree of maturity of leaf when picked, soil, altitude, and mode of drying, all resulting in variations which it is very difficult or impossible to determine by the physical examination of the sample.

I have here prepared a list showing the degree of variation in some of our most important drugs, with the average strength which ought always to be secured. It is to be understood that these strengths refer to samples which on inspection would be pronounced upon the market good. If we were to include in the consideration the large amounts—constituting perhaps a majority of the total annual consumption—of crude drugs which are classed as inferior, this variation would be greatly increased.

Aconitum varies in the ratio of 3 to 5 or 6. Belladona-leaves, $\frac{2}{10}$ to $\frac{1}{10}$ per cent., or a variation of 250 per cent., with an average of $\frac{4}{10}$ per cent.; in this case it is to be noted that the poorest and the best leaves were absolutely identical in appearance. It is also to be noted that such vast differences are very generally caused simply by the quality of the weather during the season when the leaves were produced. Colchicum root, .4 to .52; colchicum-seeds, .5 to .9—average, .7; conium, exceedingly variable—average, .6; coca-leaves, .33 to .8—average, .6; nux vomica, 2 to 3 per cent.—average, 2½ per cent.; stramonium-leaves, .25 to .45—average, .35; stramonium-seed, .3 to .65—average, 45. Jaborandi-leaves (where uniformity is of the highest conceivable importance) show the wide variation between .3 and 1.1 of pilocarpine, with an average of .75. Cantharides, the powdered varying greatly owing to adulteration—average, .7.

In considering the above substances we are enabled to take cognizance of some definite chemical principle upon which the action of the drug chiefly depends, and which, by chemical or physiological methods may be readily estimated. There is another class of preparations, represented by zanthoxylum, buchu; and cannabis indica, where uniformity is highly desirable but cannot be secured by the estimation of such definite bodies. In many of these cases, however, we are enabled, by estimating the percentage of extractive matter yielded by some specified process, to arrive very closely at the relative strength of the drug.

Now I have said enough, I am sure, to convince you of the gravest want of uniformity in our preparations as at present defined. Considering the importance of the medicinal agents which I have named, and the extreme value of getting your patient promptly under their influence, I do not see how you can fail to be startled by observing the manner in which your best efforts are handicapped. At present your only guide to the strength of a preparation lies in its trial, and by the time you have established your dose your case may be lost. Yet you must thus establish your dose for each of your druggists, and every time he changes his stock—a sheer impossibility.

Am I not safe in saying that a medical practice which has no more reliable basis than our present method of supply is not better than semi-barbarous? Do not wonder, gentlemen, at the great number of failures which attend your treatment, and the irregular results which follow the administration of your medicine, but, when you remember that in a row of fifty consecutive drug-stores the same preparation exists in forty different strengths, ranging from twenty-five to one hundred and fifty per cent., wonder, on the other hand, that you have done one-half so well as you have, and never permit anyone to say in your presence that medication at its best is unreliable or uncertain. Let us take the lesson to heart and resolve that, as the remedy for the evil is so close at hand, we will apply it, and render in the year 1890 a greater service to medicine than has resulted from any convention which has preceded it. A long step may be taken at once, and if it be taken vast progress will follow in the next ten years. If this step be not taken in 1890, perhaps if you do not act to-day, the year 1900 may find us in the same disgraceful position that we now occupy.

Do not wait for your pharmaceutical brethren to institute this reform. Many of them stand ready and eager to help you. But for the most part they see a hundred lions in the way. While some of these lions may be fierce and strong, it is not for us to contemplate the situation. We are informed that not all our drugs admit of assay; but let us assay such of them as we can, and hope and work for such a knowledge of the remainder as shall shortly bring them within the same category. The pharmacist tells us that it does not pay him to assay his drugs for the preparation of the small lots that he is to manufacture; but what is that to us? It means simply that it is inconvenient for him to do justice to us and to our trusting patients. As well might the highwayman plead against a law forbidding murder because it will deprive him of an easy opportunity for transferring $3,000 to his purse. The pharmacist, gentlemen, is the caterer to our profession, and it is our business to make all reasonable demands upon him, and his business to concede those demands, or to stand aside and let another who is willing, for of such there is an abundance. The plea of the practical pharmacist in this matter is based upon the assumption that the primary object and design of medicine and pharmacy are for his emolument! We, on the other hand, have always recognized that it is the relief of suffering mankind, and that considerations of gain are secondary and incidental. But the use of these uncertain and irregular preparations is annually bringing bereavement and desolation to great numbers of homes. Looking upon the facts nakedly, we can only see that the position which we are here condemning is one whose virtual, however unintentional, object is the destruction of human life. This being true, we are led to inquire upon what claim the justice of such recommendation is based. Merely this—and I challenge any of my hearers to bring forward in plain and concise language any other—it is inconvenient at the present time for pharmacists to satisfy the requirements of justice and humanity. When we have once reduced the argument to this, we shall not combat it, but leave it to die the death which its shamelessness must invoke. If it is really true that after half a century of such a pharmaceutical education as our country has afforded, and which has brought the profession here confessedly to rank first in the world, our pharmacists are incompetent to assay a few preparations after specified formulæ, then the fact is a most disgraceful one, and there is not the slightest hope that after another half-century the case will be markedly different. But, emphatically, it is *not* true. If it be once admitted—which no well-informed person can deny—that one drug, for instance, if you please, erythroxylon, varies, in the strength of well-appearing commercial samples, between the ratios of one and two, that is to say, to the extent of one-hundred per cent., and that our present method of preparing a fluid extract allows this wide variation to appear in the preparation, we ask nothing more. If, thereupon, the medical profession and all decent pharmacists do not insist that this element of irregularity shall be eliminated, then do I entirely mistake the American character.

Progress does not require that we should go more rapidly than prudence shall dictate. But when it has been proven that coca, belladonna, and jaborandi leaves of good appearance vary widely in medicinal power, and that in the case of these particular drugs regulation of the strength of their preparations is perfectly feasible, we do not see how there can be any honest objection raised to taking this step in the case of those specific articles. Let the other hundreds of pharmacopœial substances

stand on their merits. If it be proven that three or six or twenty or only one substance admits of thus being taken out of the category of possible death-dealing or death-permitting agents and placed among the certainly life-saving ones, let it be done; and at a succeeding revision let as many others be added as shall by that time have been brought within the permissible circle.

Furthermore, the claim of the pharmacist that he must thus assay each of his small lots is false in itself. Assayed whole or powdered drugs are now offered by responsible dealers, so that the retail pharmacist may readily purchase 1 or 100 pounds of a given drug of known strength.

Our advice to the physicians who shall assemble at Washington next May for the revision of our Pharmacopœia is, that they shall solidly demand and persistently insist that something shall be done by that convention in the direction here indicated. Furthermore, and what is more to the point, we fully expect that this action is to be taken, and that this demand on the part of physicians is to be ably supported by the best and most powerful element in American pharmacy.

AN OPERATION FOR CORRECTING DEVIATION AND THICKENING OF THE CARTILAGINOUS NASAL SEPTUM.

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The variety of operations proposed and performed for the correction of deviations of the cartilaginous nasal septum is very great. This, as usual, is due to the fact that no one operation is applicable to every case, nor is there any operation which is entirely devoid of objections. The solution of the problem at first sight seems an easy one, but it is really far otherwise. The exceedingly limited space in which operative procedures must be carried out, the impossibility of keeping the field clear of blood, the difficulty of etherization if general anæsthesia is resorted to, the restlessness of the patient and the shock to his nervous system if cocaine alone is used, in addition to the operation itself, all combine to try the surgeon's ingenuity to the utmost.

It is the exception to find a straight cartilaginous septum. It is nearly always deviated to one side or the other—more frequently to the left. Local thickenings when excessive are dignified by the name of ecchondroses, and are quite as frequently met with as deviations. Of course the nasal fossa toward which the deviation occurs is narrowed by the convexity of the curve, and the opposite side is correspondingly enlarged by its concavity. This deviation may be either in a horizontal or in a vertical direction, and is frequently a combination of both. At the angle, or rather at the most salient part of the convexity, there is always a thickening of the distorted cartilage, so that there is a redundancy of tissue not only from the curve of the septum but also from its thickening.

The degree of stenosis thus produced varies, of course, from the slightest narrowing to complete occlusion. The degree of stenosis which indicates the advisability of operation ought to depend entirely upon the patient's symptoms. As a matter of fact, however, the question of operation depends largely upon the personal bias of the adviser and the readiness of the patient to follow the advice given. Probably not one-half the number of operations are now performed upon the septum that were undertaken two years ago with the greatest alacrity. The difficulty of the operation is an excuse for the failures to correct the deformity; but frequently, when this has been accomplished, the symptoms for which it was performed have remained unrelieved, and this is due to a mistake on the operator's part in the selection of his case. It cannot be too strongly urged that every hypertrophic rhinitis, post-nasal catarrh, enlarged tonsil, or chronic laryngitis does not depend upon the deviation or ecchondrosis of the septum which may coexist. That such sequelæ often do hang upon a septal deformity is too evident for discussion. It is also true that extreme deviation of the septum and nearly complete occlusion of one nostril may exist with comparative freedom from any resultant obstructive symptoms.

The question of operating, therefore, must in each case be left to the judgment and conscience of the surgeon.

The object of all the operations proposed is the same—to obtain room for the passage of air through the stenosed nostril. This I have succeeded in accomplishing by removing enough of the redundant cartilage from the convex side of the septum to make it perfectly pliable at the point of its greatest convexity. The septum is then pushed over toward the free nostril and held in position by means of plugs until healing has occurred. Reference to the very complete review of the subject in Bosworth's latest work on the nose is enough to show that it is only the method of accomplishing this object which has even the feeblest claim to originality.

After cocainization and illumination of the parts, the thickness of the septum at the point where it most projects into the stenosed nostril is carefully made out, and the length of the deviation in an antero-posterior direction. A nasal trephine, operated by an electric motor, is used to make a hole from the anterior to the posterior surface of the deviation in such a manner that it goes as close to the mucous membrane of the concave side as possible without perforating it. This gives a little round tunnel through the substance of the thickened cartilage in an antero-posterior direction, beginning and ending in the stenosed fossa. A Bosworth nasal saw, or, better, an electric saw, is inserted into this tunnel, and so used as to separate the outer segment from the inner by sawing upward and downward, keeping as close to the middle line as possible, and thus taking a large portion of the thickened cartilage from the convexity.

The trephining is the work of a second, and is usually entirely bloodless, and with cocaine is nearly painless. The reason for this preliminary use of the trephine is that not only can a considerable portion of cartilage be taken away, but it is possible in this way to go very close to the concave side of the septum without perforation, and it thus makes a groove in which to start the saw. If a saw is used from the start, neither can the work be so accurately done, nor is it possible to make the septum thin enough. The sawing, if by hand, is slower, more painful, and very bloody. Although I have never used one, the electric nasal saw would no doubt greatly facilitate this part of it.

In the diagram the trephine entrance is seen at A, and the dotted lines indicate the direction of the saw above and below. It is evident that this procedure is applicable to a deviation either in a horizontal or in a vertical direction.

The septum should now be found pliable on pressure with the probe. In wedging it over toward the other side I have used absorbent cotton plugs soaked in sublimate solution (1 to 5,000), and renewed daily or every other day. Thick rubber drainage-tubing or Gleitsmann's tupelo dilators might be used for the same purpose.

The after-treatment is, of course, very important. Careful daily cleansing of the parts with an antiseptic

solution should be attended to for several days. Shreds of tissue should be cut away with the scissors; any small protuberance should be burned down with the galvanocautery. The wedging process and the antiseptic douching should be continued until the septum has been firmly fixed in its new position. If the septum has been sufficiently thinned down, the swelling which follows the operation should not cause excessive pain to attend the renewal and retention of the cotton or other plugs. I have never performed this operation by the flap method, though, of course, this could be resorted to as well here as in the ordinary operation; but it would render it longer and more difficult, and I doubt if any great advantage would ensue, as I am inclined to think that the granulation and cicatrization in themselves tend to draw the septum toward a straight line.[1]

As my experience with deformities of the septum which require a straightening of the deviation is limited, I have described the above procedure in the hopes that others will give it a trial, and refute or confirm my favorable experience with it.

MEDICAL CASES IN THE COURTS.

By HENRY A. RILEY, Esq.,
NEW YORK.

Unchastity Must be Proved in Defence for Slander.—In an Indiana court there was recently an action for slander, based on the alleged publication that the plaintiff, who was unmarried, was unchaste, and had become pregnant. It was further stated that she had committed an abortion on herself. The defendant applied to the court to issue an order requiring the plaintiff to submit her person to a medical examination, for the purpose of furnishing evidence to sustain the defence. The order was refused, and on appeal the decision was sustained as follows: "We are not cited to any case where any court has held such an examination to be proper, and we think none can be found. One should not publish and circulate slanderous charges against a young, unmarried female, as proven in this case, without being able to substantiate them, when called upon to do so, without calling upon the court to aid in the search for evidence in his behalf by ordering and subjecting her to an indelicate examination of her person, with the hope of obtaining some information advantageous to the defence, and call to his aid the power of the court as a means of humiliating her still more.

"When one voluntarily asserts a slanderous charge against another, and defends by alleging the truth of his assertion, he must be able to substantiate the truth of the charge, without invading the privacy of the person about whom the charge is made. The court very properly refused to make the order requiring the plaintiff to submit her person to an examination."

A Proof of Insanity.—In Arkansas the courts seem to hold that insanity, as a defence in murder cases, must rest on the inability to distinguish between right and wrong. If the accused was conscious of the act and its consequences, he must have been, by reason of insanity, wrought up to a frenzy, rendering him incapable of controlling his actions. If reason was dethroned, temporarily, merely by passion or revenge, the accused could not thereby be shielded from the consequences of his criminal act.

The facts of the case at bar were as follows: Defendant when a child received a wound on the head, which was followed by a fever—the result, in the opinion of medical experts, being to render him liable, in case of exciting causes, to an attack of insanity. He had been moral, quiet, chaste, and religiously inclined until after his acquaintance with deceased, who led him astray, and with whom he was criminally intimate; he was nervous, and would act strangely, wanting in stability, possessed of personal pride to extreme vanity, with great regard to the opinion of others. He had been arrested with deceased upon a charge of larceny, and was laboring under great excitement, exhibiting distortion in facial expression, and on the same day he went to the room of deceased, locked the door, and shot her and then himself. When he was seized he attempted to shoot himself again, exhibiting extraordinary strength.

On his person was found a telegram, ready to be sent, announcing his death, and another paper in his handwriting, stating, that having lost the respect of all, he had lost all, and that this was the cause of his "rash act," having determined to end his life with the one beloved. Upon this testimony, medical witnesses gave their opinion, that, if true, defendant was insane, incapable of reasoning correctly, and so completely deprived of the control of his mental faculties as not to know that what he was doing was wrong. The verdict in the case was guilty of murder in the second degree, and this was sustained on appeal.

Practicing Without a Certificate.—The question of not permitting a person to practice medicine without a certificate from the examining board has been under consideration in Iowa, and the wisdom of such a law seems to be clearly shown. The law stated that continuous practice for not less than five years was to be considered a *prima facie* qualification but that a certificate could be refused any person convicted of a felony, or it could revoke a certificate for a like cause, or for palpable evidence of incompetency.

The Board of Examiners declined to issue a certificate in one instance on the ground of incompetency, and the right to take such action was the matter before the appellate court for decision. The law was upheld as a requirement, and the decision, which is of much interest, is in part as follows: "We think the legislative purpose is best subserved by holding that the Board, upon the application of the defendant, had the right to inquire as to his incompetency, and that the established fact of his prior practice was no more than equivalent to the possession of a certificate, which might be overcome by a showing of palpable incompetency. The defendant, in his testimony, denies having been examined before the Board as to competency, but his testimony in this respect is conclusively overcome by the record. His examination, as shown by the abstract of appellant is brief, and in these words: 'Dr. S. Mosher was sworn; said his name was Sidney Mosher; that he was fifty-two years of age; says he began reading medicine in New York State when twenty years old with Kelly & Robinson, near Batavia. Never attended lectures; been in the practice about twenty years; began treatment of medicine before the war; began in Iowa, when Government first required revenue tax; said he did a general practice; did but little surgery; could not say how many cavities there were in the heart; cannot give the origin or insertion of any one muscle in the body. Select any one? Said he could not answer now, as he was not prepared to be examined. Can you give the therapeutic action of any single drug, and you select the drug? Could not say.' The examination discloses that the defendant was either palpably incompetent, or stubbornly silent, in either of which cases he had no grounds for complaint as to the action of the Board. If he knew, and would not tell, the Board was justified by his misconduct in believing him incompetent. If he did not know, the result is a vindication of the law."

Contributory Negligence.—A very important branch of law is termed contributory negligence, which means that a person cannot recover damages for an injury when he himself was negligent, even though the railroad company or some other means of harm was also negligent.

It has long been a question of dispute whether the same rule applied to a little child, who, though negligent, did not know that he was so, or could not devise means to escape the consequences. In such cases many courts have decided that the negligence of the child was imputable to the parent, and would prevent the latter from re-

[1] I have never seen the remark made in literature, but I have certainly noticed that much more than the usual proportion of straight septa are found in cases of atrophic rhinitis.

covering for the injury on the ground that the parent was in duty obliged to look after the child and keep him out of dangerous places. This rule has been declared in New York, Massachusetts, Minnesota, Illinois, California, Missouri, and other States. The opposite rule allowing a recovery has been established in Ohio, Nebraska, Texas, Pennsylvania, Connecticut, etc. One of the latest decisions of the latter kind is in Iowa, where the Court says: "In this case the child was taken into the wagon, and exposed to the accident which resulted in his death without volition on his part. He certainly was free from fault. If his parents, by their negligence, contributed to his death, that does not seem to us to be a sufficient reason for denying his estate relief. Such negligence would prevent a recovery by the parents in their own right. But it appears to us unjust and contrary to reason to hold that the irresponsible child should be responsible for the wrongful acts of his parents or others who may have him in charge. He is incapable by himself of committing any act of negligence, and cannot authorize another to commit one."

Valid Trust for Support of Horses and Hounds.—The English Chancery Division has recently decided that it is a perfectly valid trust to leave money for the support and maintenance of horses and hounds. The will gave £750 to trustees to use the income for fifty years in maintaining the said stables and in providing a home for the faithful horses and dogs.

Christian Science.—The Christian Scientists seem to be running foul of the courts. In Brooklyn recently several practitioners of the school were sent to jail in default of paying a fine on account of violating the law in regard to the spread of contagious diseases, and in a number of places the newspapers state that public sentiment would warrant criminal actions for malpractice and neglect of the patients. Clairvoyants do not escape actions for malpractice on the ground that their system does not require knowledge of anatomy or of the nature of diseases, and Christian Scientists and Faith Healers cannot hope to avoid responsibility for the failure to administer medicine, on the plea that prayer or mental treatment is the only method of practice with them. The Brooklyn Faith Healers regard themselves as martyrs, and do not seem to object to punishment.

THE GLYCOGENIC FUNCTION OF THE LIVER AND ITS RELATION TO ANIMAL HEAT, FEVER, AND DIABETES MELLITUS.

By GUSTAVE MAHÉ, A.M., M.D.,

NEW YORK.

"FEVER is a peculiar condition of the system in which there are present the phenomena of rise of temperature, quickened circulation, and disordered secretion."

The human body needs, for the proper physiological performance of its functions, a certain definite amount of heat. This amount is sufficient to keep the average temperature at about 98.5° F. At that temperature the various physiological functions are satisfactorily performed. When the heat-generating apparatus, through various influences to be hereafter discussed, produces an additional amount of heat, the temperature rises, reaching, in extreme cases, 108° and 109° F. At such high temperatures pathological conditions occur which are highly injurious to human life. Fever in itself is not a disease, it is a consequence of various maladies. It may be of the simple variety, a sudden elevation of temperature, lasting but a short while, and as abrupt in its disappearance as it was in its inception. Such a fever involves no permanent pathological or organic change, being due to such conditions as quickened cardiac action, over-activity of the glycogenic function of the liver, peculiar but temporary nervous conditions. Fever, as a rule, however, is not simple, it accompanies other ills, and, producing its high temperature, enhances the ravages of the mother disease. This fact is so well known to the medical profession that almost our first act, when called to the patient's bedside, is to take the temperature, and if it is found more than a degree above normal, medication to reduce it is immediately begun. This is done irrespective of the disease of which the fever is an accompaniment. It is unnecessary to state that we do not omit to direct other remedies at the cause of the fever, but neither do we fail to administer an antipyretic. In order to understand the phenomenon of fever, it is necessary to give a brief sketch of the theory of the production of animal heat.

Blood, average temperature, 98.5° F.; hottest in the hepatic vein, where it reaches 107° F. Heat of the body due to the combustion within it of human sugar, or glycogen. Glycogen decomposed in the body into alcohol and carbonic acid. Alcohol undergoes decomposition, uniting with the oxygen of the blood to form water and carbon dioxide, generating animal heat. Liver generates glycogen, therefore it is the heat-generating organ of the body. Liver, in health, generates glycogen from the carbohydrates, taken as food and introduced into the circulation as glucose. Carbo-hydrates contain carbon, oxygen, and hydrogen in the proportion to form water. When from any cause the carbo-hydrates are no longer supplied to the liver, it seizes upon and converts the fats into glycogen, finally attacking the nitrogenized principles until, finally, when the patient's weight becomes reduced about four-tenths, the individual dies.

The quantity of animal heat depends upon the amount of glycogen poured into the circulation by the liver through the hepatic vein, and its perfect or imperfect consumption in the system. The quantity of glycogen produced by a healthy liver is dependent upon two things:

I. Upon the amount of blood forced through the liver; and,

II. Upon the degree of activity of its glycogenic-forming cells.

The amount of blood forced through the liver depends upon:

I. The force of the heart's action.

II. The amount of resistance offered to the entrance of the blood into the portal circulation, and the greater or less directness of its course in reaching it.

The degree of activity of the glycogenic-forming cells depends upon the amount of controlling influence exerted over them by the right pneumogastric nerve. This influence is probably an inhibitory one, similar to that of the left pneumogastric over the heart-muscle. That the pneumogastric presides over the glycogenic function of the liver is proved by the fact that when its origin in the brain at the floor of the fourth ventricle is injured, by puncture with a sharp instrument, there is an immediate stimulation of the glycogenic cells, an over-abundance of glycogen is produced, it is eliminated by the kidneys, passes out in the urine, and we have diabetes mellitus. This irritation of the floor of the fourth ventricle can be produced in various ways: By certain drugs, such as ether, chloroform, etc.; by traumatic injury; by pathological changes at the spot itself. If the injury or irritation be only temporary, this over-activity will disappear after a time. If the lesion, however, be permanent, then the over-activity of the glycogenic cells becomes also permanent. The liver seizes upon the sugars, fats, nitrogenized substances, converting them into glycogen, until the patient dies from exhaustion, or the cells themselves may be destroyed by overwork, death ultimately closing the scene. Space does not allow here to treat of the intercurrent maladies which occur, such as phthisis, Bright's disease, colliquative diarrhœa, and in which the simultaneous injury to the other filaments of the pneumogastric nerve going to the lungs, kidneys, and intestines, plays an important part.

That diabetes mellitus is always due to an injury of the floor of the fourth ventricle is not true. This injury is not necessary to the existence of the disease. Repeated autopsies have revealed lesions only in a certain proportion

of cases. I farther on offer another cause for glycosuria. If the amount of sugar in excess, instead of being thrown off by the kidneys, be consumed in the system, it would produce an extra amount of heat; hence, instead of diabetes, we would have fever. This intimate association of two great pathological conditions opens up a large field of investigation which will doubtless lead to great results.

If, however, the controlling action of the pneumogastric nerve over the liver is normal, the cells are not over-active; they merely convert into glycogen the saccharine constituents of the blood, storing them up and distributing them *pro re nata*. If we increase the quantity of saccharine constituents of the blood by an excessive consumption of carbo-hydrates, we will increase the quantity of glycogen poured into the circulation. If the amount of blood forced through the liver is increased, the quantity of glycogen formed will naturally be greater. This increase in the amount of blood poured in the portal circulation has already been stated to be possible from two causes: Increase of the general circulation, and increase in the portal circulation. The first proposition is self-evident; the perception of the second requires a few anatomical details.

The blood entering the liver from which glycogen is normally formed is venous blood, entering by the portal vein, emerging by the hepatic vein, which empties its contents into the inferior vena cava; from this vein it enters the right auricle, which throws it into the right ventricle, thence through the pulmonary artery passing to the lungs, and so on. The liver also receives a comparatively small amount of arterial blood through the hepatic artery. The venous blood entering through the portal vein in health is the only supply concerned in the formation of glycogen. When, however, there is a deficiency of blood-supply to the portal system, through obstruction or otherwise, then a certain amount of glycogen may be formed by the cells directly from the arterial supply. The portal system is formed by the union of the superior and inferior mesenteric, gastric, and splenic veins, which collect the blood from the digestive viscera, and, joining each other behind the head of the pancreas, form the portal vein. Now let us begin at another point. The arterial blood, passing out of the left ventricle of the heart, enters the aorta, a certain portion being forced into the cœliac axis formed by the gastric, hepatic, and splenic arteries. As the names of these various vessels imply, they, in a general way, supply the stomach, liver, and spleen, a large number of anastomosing branches being given off from them, and going to form a complete net-work around the stomach. The blood, having passed through the stomachic substance in a minute capillary system, and having in its course therein taken up certain constituents of the food, forces its way into the gastric and thence into the portal vein.

Farther down on the aorta the arterial blood passes into the superior and inferior mesenteric arteries, which are distributed to the intestines, forming their main blood-supply; those two arteries have also anastomosing branches. In the intestinal walls the arterial blood circulates in an immensely rich capillary plexus, absorbing here again constituents of the food, and finally emptying into the superior and inferior mesenteric veins. A great many anatomical details I have, of course, passed over. It is sufficient, for the purposes of this paper, that we describe in a general way the portal circulation; and we have so far traced the blood entering it from the mesenteric and gastric veins. We have observed that these veins bring to the liver the assimilated contents of the stomach and intestines. We have found that the blood-circulation must be naturally slow. This sluggishness is due to the resistance offered by the length of the channels and the extreme minuteness of the capillaries. The only remaining one for us to consider is the splenic vein, and our chain will be complete. The splenic vein conveys to the portal vein alone the blood which has passed through the spleen. A few radicles from the pancreas are of no interest here. The blood going to the spleen is supplied by the splenic artery alone. The splenic artery is of large calibre, enters the body of the spleen by four or five large branches, gives off numerous ramifications, finally entering the splenic capillary system and passing into the vein. Hence it will be seen that the course of the blood is direct, and the only resistance to its passage in large quantities from the aorta to the liver is offered by the splenic substance itself. In its normal condition the spleen is contracted, squeezing down and compressing the calibre of its own vessels, and preventing an over-rapid passage of the blood through it. Now if, through any cause, the spleen relaxes, the calibre of the vessels would naturally become largely increased. An inordinate amount of blood is forced directly into the portal circulation. This increases the amount of glycogen formed by the liver, and we have it introduced in over-abundance into the circulation. But in the blood-supply entering the portal vein through the splenic vein there are neither carbo-hydrates nor fats. Very true. The glycogenic cells will have to fall back upon the nitrogenized constituents of the blood for their material; and so they do, appropriating the necessary elements and casting off the nitrogen in the shape of urea, which is increased. As a clinical fact, it has been observed that urea is increased in all fevers, except, perhaps, yellow fever, and also in diabetes mellitus.

It has long been an accepted proposition that urea is the result of the burning up of the tissues of the body. This is only partially true. One of the symptoms of diabetes mellitus is a large increase in the amount of urea. The temperature, however, is not feverish, and the abnormal quantity of urea is due to the fact that the over-active glycogenic cells are converting the nitrogenized principles of the blood into *glycogen* and *urea*.

Why, in certain cases, the surplus amount of glycogen should be converted into alcohol and carbonic acid, and in others be eliminated as glycogen, has as yet been unexplained.

The glycogenic ferment is presumably formed in the ductless glands of the liver, and that it is the active principle that converts sugars in the blood coming from the portal vein into its allotropic modification of glycogen is generally accepted as a physiological fact.

Diabetes is stated to be a nervous disease, and when the disturbance causing it is central, it is more than probable that the lesion to the great pneumogastric centre will disturb other functions than that of the liver.

Fever, on the other hand, if due to nervous disturbance at all, directs its effects in the main toward increasing the rapidity of the circulation of the blood, and the rise in temperature is generally accompanied by an acceleration of the movement of the heart and lungs. In all fevers, splenic disturbances are more or less marked. Now it is a fact that the chemical decomposition of sugar into alcohol and carbonic acid is performed by the aid of a micro-organism or ferment; hence such a ferment must exist in the blood. Therefore, supposing the quantity of the calorigenic ferment, if I may be allowed the term, to be present in the blood in normal quantity, it follows that the increase of glycogen dependent upon over-activity of the splenic circulation will be accompanied by a corresponding increase of calorigenic ferment passing through the liver, it will decompose the glycogen into alcohol and carbonic acid, a larger amount of heat will consequently be evolved, and fever will result.

It must be borne in mind, however, that cases may exist where there is an abnormally small amount of calorigenic germs in the blood, coexistent with an increased splenic circulation, and that the consequence in that case would also be glycosuria.

To recapitulate, therefore, it appears that diabetes mellitus can be caused by two conditions:

I. Over-activity of the glycogenic cells of the liver.

II. Increased quantity of blood passing through the splenic circulation, and in which the quantity of calorigenic germs is abnormally small.

Fever is also dependent upon two conditions :

I. An abnormal amount of calorigenic germs in the blood.

II. An increase in the quantity of blood passing through the spleen into the liver and containing a normal amount of calorigenic germs.

The argument has been advanced that the spleen cannot play an important part in the phenomenon of life, as its removal has not materially interfered with its prolongation. That, however, it is the great equalizer, a regulator of the correlations of the functions of the internal organs, I am firmly convinced. It holds the balance of power, so to speak, and the disturbance of its integrity is always attended finally by more or less grave complications. It is more than probable that a portion of the calorigenic germs are generated in the spleen while it is performing its function of altering the proportion between the different amounts of red corpuscles and leucocytes in the blood. That it is not the sole organ thus employed is patent from the fact that animal heat is still generated after its extirpation. At the same time, it must be borne in mind that important compensatory changes take place in the marrow of bone after its removal, and that Mother Nature, like the hydra of Lerna, has more heads than one, and that in the complex mechanism of life, so simple in some things, so indescribably mysterious in others, one of the great principles, without which human existence would be narrowed down to even a shorter compass than it now enjoys, is that of compensatory function.

Clinical Department.

PERFORATION OF THE SEPTUM.

By S. MITCHELL, Jr., M.D.,

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Many cases of ulceration and perforation of the cartilaginous portion of the septum occur, that are entirely independent of any syphilitic disease, but induced by the patients themselves, as I had occasion to observe in a case recently under treatment, and the one that serves as a text in presenting this subject. I have noticed that perforation of the septum, in its cartilaginous portion, is most frequently found in thin-featured people, where the lateral cartilages that should present convex surfaces outward, thus giving free, open nares, are reversed by a collapse of these cartilages, thus bringing their convex surfaces toward the septum. The constant contact of surfaces thus induced creates a feeling of obstruction that the sufferer seeks to remove by frequently introducing the finger into the nostrils. The result is, the septum is injured by the sharp finger-nail, a crust forms at the seat of the injury, which is torn away by the sufferer as often as it reforms, thus giving great relief (to his mind), but inflicting upon the septum each time a deeper injury, that finally results in a perforation of this thin partition, with ulcerated edges, and becomes a source of pain and annoyance until the edges are healed. When once healed, there is really great relief from the feeling of obstruction. The case above referred to I saw at the very outset of his trouble, and warned him of the result toward which he was hastening. In addition to warning I tried to induce him to wear, immediately under the cartilages, small dilators, made of silver wire—an idea first suggested to me by Dr. R. Jefferies, Jr., of Brooklyn. These appliances were discarded by him after a short trial, and, despite my continued warnings, his finger-nail was still employed as the best means of relief, until a short time ago, when he presented himself at my office with a perforation of the cartilage of the septum as large as a ten-cent piece. The edges around the whole circle were ulcerated, and the seat of considerable pain that extended to all parts of the nose and forehead. I informed him that the practice of removing the crusts must be discontinued, and the edges constantly protected in order that healing might be favored. With this end in view I removed all the crusts, prepared a thin pledget of cotton, exactly fitting the opening in the septum, smeared it thoroughly with ung. hydrargyri nitratis dil., and placed it in the opening, with directions to allow it to remain for twenty-four hours. This was complied with, and when he presented himself at my office the next evening he informed me that the pain was greatly diminished, and, contrary to his expectations, he had breathed more freely through his nose than usual. Upon removing the cotton I found the ulceration already rapidly healing. It was dressed as before, directing him to allow it to remain the same length of time. This treatment was continued for about two weeks, when healing of the ulcerated edges was complete. After the first few dressings this part of the treatment was delegated to my patient's wife, who devised a very novel and ingenious improvement on my cotton pledgets by stitching to either side of these circular pieces of canton-flannel, the diameter of which exceeded that of the cotton by one-eighth of an inch, thus making a flange on both sides of the cotton. Between these flanges the ointment was placed, and when this novel dressing was in position the projections of the cloth rested on the septum in both nostrils, and the cotton, with the ointment, was in contact with the ulcerated edges only. No one knows better than a doctor does that "necessity is the mother of invention," yet they sometimes wait for patients, or their ministering friends, to give an illustration of the fact.

PHTHISIS IN HAYTI.

By R. PERCY CRANDALL, M.D.,

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A curious idea exists among the natives of Hayti in regard to phthisis pulmonalis. They believe it to be both contagious and infectious, and fear it much more than yellow fever or small-pox.

A native who is believed to be affected with this disease is avoided and shunned by all who know him, and becomes an object of prayer for the priests and of pity for the people.

When a consumptive dies, the entire contents of the room in which he died are either destroyed or thrown into some place set aside by the government for that purpose. This sacrifice of property not only includes the furniture of a room, but also articles of value, such as jewelry, gold, and precious stones. This idea of destruction is carried to such an extent by some, that the paper is sometimes removed from the walls, and the floors torn up. Cases have even occurred where small houses, in which deaths from phthisis have taken place, were burned down to the ground to prevent the spread of disease.

While riding one day near the suburbs of Cape Haytien, the commercial capital of Northern Hayti, I came across a sort of marsh or lake of mud known as the "*Cimetière des chevaux*." Scattered over its surface and half sunk in its muddy depths, were innumerable household articles, furniture of all kinds, sewing machines, pianos, bookcases, books, etc. Here and there also appeared the whitened skeletons of animals.

My curiosity being excited, I asked of a native, standing near, the reason for this apparent waste of property. He informed me that the *Cimetière des chevaux* was a repository for the dead bodies of animals, and for everything that was found in the room of one who had died from *la poitrine* (consumption). When asked if anything was ever removed from the cemetery, he answered that nothing would induce a Haytien to even touch anything that had been placed there.

I found this to be strictly true, as on several occasions I offered natives sums of money to bring me articles from the cemetery, and was always refused with looks of horror and repugnance.

On careful investigation, I found that phthisis was regarded as contagious by all classes throughout Hayti. En-

deavoring to trace this idea back to its origin, I found that it existed among the early African tribes who inhabited Hayti under the French rule, and that it was probably brought over with them when they were brought from Africa. This conclusion is rendered more probable by the fact that the majority of the West India negroes of African origin entertain the belief that phthisis is contagious.

I examined many cases where phthisis was supposed to exist, and found in every case well-marked and characteristic symptoms, the most common pathological condition being small cavities in the upper lobe of the left lung. Hemorrhages are frequent and night-sweats rare. The disease is much more frequent among women than men, and prevails chiefly among the lower classes.

In regard to etiology, heredity, sedentary habits, high temperatures, bad ventilation, and the faulty construction of the houses, with their damp earthen floors, may be considered as the chief causes. The average Haytien affected with phthisis will never admit that he has the disease, and to convince such an one that he is a consumptive is simply to shorten his life through fear.

Here, then, is an additional point for those who hold that phthisis is infectious.

ARTIFICIAL ANÆSTHESIA DURING SLEEP.

By J. W. CARHART, M.D.,
LAMPASAS, TEX.

On May 6, 1889, at about 5 P.M., I was summoned to attend a child about three and a half years of age, who had fallen, a short time previous, and fractured the right thigh at about the middle third.

The family were living in a tent, in a sheep camp, about five miles from town. It was raining at the time, the road was obscure, and the tent in an out-of-the-way place, and it was accordingly somewhat late when I reached the bedside of my little patient. I found him asleep. He had suffered, cried, and worried until exhausted with fatigue, and sleep, "nature's sweet restorer," had come to his relief. I said to my wife, who had accompanied me: "We will now make the attempt to chloroform the little fellow without awakening him. Experiments lately reported in our journals, as having been made in hospitals, would go to show that it cannot be done."

I was desirous, if possible, of negativing the hospital experiments, but more especially of treating my little patient without any more suffering and excitement. Accordingly, I commenced with the paper cone enclosing napkin, at considerable distance from his face, perfect quiet prevailing in the tent. I made very slow and gradual approaches until the cone covered the face, when the breathing soon indicated that anæsthesia was accomplished. Before touching the broken limb, I satisfied myself that he was profoundly under the anæsthetic. I then applied the silicate of soda splint, or fixed bandage, according to the method I reported, in my paper on the subject of "Silicate of Soda Splint or Fixed Bandage," to the twentieth session of the Texas State Medical Association, which report is published in the "Transactions" for 1888, p. 97.

He did not awaken until after the anæsthetic was withdrawn. There was no excitement, no struggle, and not the slightest indication of the transition from natural sleep to artificial anæsthesia, except the respiration.

I am satisfied that artificial anæsthesia can be produced during sleep, in suitable cases; in other cases failure would doubtless result. The reasons for such success or failure are admirably stated by Dr. B. F. Hart, in THE MEDICAL RECORD for November 9, 1889, p. 526, under the caption "Both Right and Both Wrong."

The Supreme Court of New Hampshire has decided that the State law requiring a license for the practice of medicine, surgery, and dentistry is unconstitutional.

Progress of Medical Science.

Observations on Tricuspid Stenosis.—From certain facts collected by Dr. Leudet, it would appear that the comparatively rare condition of stenosis of the tricuspid orifice may be either congenital or acquired. The former arises either in fatal endocarditis, or from a malformation producing an excessive amount of muscular tissue at the auriculo-ventricular junction. In consequence of the stenosis, there may also be patency of the foramen ovale and incomplete formation of the ventricular septum. Sometimes it is associated with pulmonary stenosis or lesions on the left side. Cyanosis is the most frequent symptom; and a systolic bruit, rarely a diastolic, may be produced; while the enlargement of the right auricle may occasionally be detected by percussion dulness crossing the sternum. Dr. Leudet has collected details of 114 cases of acquired tricuspid stenosis, 86 females and 22 males (in 6 the sex not stated); and in 57 no antecedent disease, such as rheumatism, chorea, typhoid fever, or scarlatina, was noted. The degree of stenosis may be considerable, and it may be produced by 1, cohesion of the valves; 2, true stenosis of the orifice; 3, obstruction by vegetations, etc. The first is the most frequent. It corresponds to a chronic, slow endocarditis, generalized rather than deep, and tending to cause the damaged valves to unite at their margins. In only 11 cases out of the 114 was the tricuspid stenosis solitary; usually there is concomitant mitral stenosis, which is always more marked than the tricuspid. Presystolic thrill and bruit at the xiphoid and above may be present, but do not appear to be common.—*L'Union médicale.*

Some Cases of Intestinal Obstruction.—Dr. Gelpke reports four cases of intestinal obstruction, of which two had been operated on, one with success, and two had been successfully treated with metallic mercury. From these cases he concludes that quicksilver is a valuable remedy in cases of obstruction, and that the metal seems to be quite innocuous to the system if not too long retained. It had been so retained in one of the two cases, in which four teaspoonfuls of quicksilver had been given, and the fæces and urine of the patient contained the drug for twelve weeks; there were other distinct symptoms of mercurial poisoning, such as great emaciation, excitement, loss of hair, and some stomatitis. The other patient, on the contrary, showed no signs of mercurialism whatever. He considers that in hernia it is generally advisable to commence the abdominal section from the orifice of the sac. Finally, considering the uncertain and not very successful results of laparotomy, he would not operate before other means, such as quicksilver, have been tried for from four to six days. Dr. Reitz has reported the case of a laborer suffering from obstruction of the bowels, who, after three days' fruitless administration of purgatives, was brought to the hospital. Fecal vomiting was present, and a tumor could be felt on the left side of the umbilicus. Enemata of water by the long tube, though as much as six pounds of water were injected, were unsuccessful, but the vomiting and sickness improved under repeated washing out of the stomach. The next day the patient was considerably worse, and fecal vomiting returned, with cold perspiration, restlessness, meteorismus, a pulse of 120, and a temperature of 100° F. After the enema with the long tube had been again used, and the stomach repeatedly washed out, without any improvement, seven drachms of bicarbonate of soda in five ounces of water were injected into the rectum, followed by three drachms of tartaric acid in the same amount of water, and the anus closed. The patient, who was on his knees and elbows, complained at once of severe abdominal pains, and in five minutes the injection came away with exceedingly offensive flatus. Shortly afterward the patient felt considerably better. In three hours the enema was repeated with half the previous doses, and was shortly followed by a large loose motion, and by a second later on. The patient completely recovered.—*The Lancet.*

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MURDER BY CHLOROFORM.

THE recent alleged case of the murder of one woman by chloroform, while asleep, and the narrow escape therefrom of her female companion in the same room, has brought up for discussion the possibility of such an occurrence, and the ventilation of many theories of the supposed means to such an end. Two women are said to have been sleeping in one bed, burglars enter the room, chloroform both the sleepers, and decamp. One of these is found dead in bed, with a portion of the coverlid, said to smell of chloroform, over her face; the other lying in a helpless condition on the floor, and apparently too dazed to give any consistent and intelligible account of her condition. The husband of the dead woman, a dentist, was away from home at the time. The results of the autopsy upon the woman are said to be so unsatisfactory as to cause the coroner to inquire into other probable causes of death than the one suggested.

Without attempting to anticipate a verdict in this case, the questions of possibility and probability of murder by chloroform, and while asleep, offer some interesting points from purely unbiassed and strictly scientific stand-points.

Very soon after the discovery of chloroform as an anæsthetic, and the wide publication of its wonderful powers, grave fears were entertained of its more or less extensive use by burglars and other criminals. Notwithstanding, however, this feeling of alarm, which at the time was shared by many legislators and other leading men in Great Britain, agitated as it was by all sorts of exaggerated propositions, there has been little, if any, experience in the jurisprudence of such cases up to the present time. Scarcely a dozen of these have come before the courts, and these were either for burglary or felonious assault, but never yet, as far as we can ascertain, for murder. In no instance has it been proven that chloroform, when alleged to have been used at all for either of these crimes was to any purpose.

Dr. Snow, the eminent authority on anæsthesia, boldly expressed his belief in that direction many years ago, and more recently the exhaustive paper on the subject by the late Stephen Rogers, of this city, placed the possibility of the use of chloroform for burglarious purposes at least almost beyond the pale of argument. After examining with critical care the alleged cases in which such attempts were made, he very properly concludes that there is great liability to err on the part of courts, unless upon detailed inquiry into the circumstances and manner of giving the chloroform they be found consistent with the thoroughly well-known facts and phenomena uniformly attending the administration and action of the agent.

The same conclusions would apply with especial force to the supposed cases of murder, especially when the crime is alleged to have been committed while the victim was asleep. Concerning the latter element of this proposition, enough has already been written to place the settlement on a very well-recognized basis. The numerous observations regarding the possibility of inducing anæsthesia during sleep have quite conclusively shown that it is only with the greatest care on the part of an experienced practitioner that such can be accomplished at all, and then only in exceptionally favorable cases with particularly fortunate surroundings. Again, while this condition of things can be sometimes produced with infants and young children, as shown in many cases, one of which is reported in this issue, it is virtually impossible in the cases of adults.

The interesting observations of Dr. J. H. Girdner, of this city, on this point, prove how easy it is to awaken suddenly and with alarm the soundest sleeper at the very commencement of the inhalation, even when the napkin containing the chloroform is held a considerable distance from the face. Aside from the favorable surroundings necessary for success in these cases the element of time in the effective administration of the drug is no inconsiderable one to take into account, adding as it does a proportionate risk of detection in the act.

Considering also the comparative rarity of induced anæsthesia without struggle, noise, or vomiting by the victim, the chances of being discovered are increased in proportion. Such incidents also would be likely to alarm the criminal even more than the victim, in fear that, if not detection, actual murder might be the result.

To return to the case which forms the text of these comments, a few pertinent inquiries suggest themselves as bearing upon the theory of chloroform-murder by burglars. How could the deed be accomplished as explained by the fact that one of the victims was found dead in bed and the other lying on the floor? Which one was chloroformed first? Is it possible to conceive that, lying side by side, one or the other would not be awakened to give an alarm, even if the drug was administered to both at once? Or, was one promptly strangled, and the other simply overcome in her struggles subsequently? With one murder staring them in the face what would have been the incentive of the criminals to commit another against such desperate chances as a determined and desperate resistance by the remaining victim?

The autopsical revelations may make many points clearer than at present. The main one to prove is, whether or not chloroform was the lethal agent at all; but more difficult than all will it be to explain how the deed was actually done, consistent with the well-recognized difficulties of chloroform administration under such circumstances. The responsibility of settling these questions must, however, rest with the jury which shall try the case.

COLORADO AND CONSUMPTION.

IT is important that we should have, from time to time, reports from the practising physicians of health-resorts in regard to the advantages to be gained by sending patients

to them, for the resident practitioner alone knows to what extent the patients conform their habits to the needs of the locality, and what are the special drawbacks to which foreign residents are subject. He can decide better, also, in what forms or stages of the disease residence in his district is beneficial. In the Trans-Colorado State Medical Society, 1889, Dr. Fisk, of Denver, gives what seems to be a very impartial review of the influence of the climate of Colorado on the health of consumptives sent there from other States; basing his statement on an analysis of a hundred recorded cases in which he has been able to keep the patient long enough under observation to tell what the effects of his sojourn have been.

Fifty per cent. of all cases received so much benefit that they were able to pursue their occupations without serious inconvenience.

Seventeen per cent. of all cases were somewhat improved, but had always to use certain precautions, and to limit their exertions. Many of these returned to their homes.

Seven per cent. of all cases became worse, largely because of their own imprudence.

Twenty-six per cent. of all cases died.

Thus two out of three received benefit from their residence in Colorado. Nearly all of those who were entered as "worse," and nine out of the twenty-six who died were doing well until some imprudence caused a permanent relapse.

His figures show that men are more apt than women to secure an arrest of pulmonary disease by going to Colorado. Perhaps one of the most potent causes of this difference is the greater ability of men to endure separation from home and change of surroundings.

The chances for improvement are better after thirty years of age. The general law for all countries holds here too; that in fatal cases the course of the disease is shorter in women than in men.

In only twenty-five per cent. of the hemorrhagic cases did hemorrhage return in Colorado, and in many of these instances it was brought on by immoderate exercise. In only two non-hemorrhagic cases did hemorrhage occur in Colorado, and then it was due to unusual exertion. This proves that the climate is suitable for hemorrhagic cases.

The prognosis depends very greatly on the ability of the patient to sleep and to eat and digest food. Thus, a patient with good appetite and good digestive powers, with regular action of the bowels, is likely to improve, while a patient with equal hereditary predisposition and equally advanced disease of the same form, but with poor appetite, bad digestion, and constipated or irregular bowels, is likely to receive little or no benefit.

As might be expected, rapid pulse and high temperature are indications that the course of the disease will be unfavorable.

Realizing the difficulty which even skilled diagnosticians find at times in determining the exact stage in which the disease presents itself in certain patients, and the uncertainty of their prognosis in such cases, Dr. Fisk has adopted a classification of his own.

In the first class, where there is "slight trouble," a small part of the apex of one or of both lungs, or of the base of one lung, being involved, there is a good chance for improvement in Colorado.

When the patient presents "marked trouble," the whole of one lobe being affected, or râles being heard in two separate lobes without softening, he may be sent with the hope of getting some improvement.

If dulness is very distinct over one or more lobes, and if there is at the same time tubular breathing and unmistakable bronchophony, with râles of various sorts, even though he cannot positively diagnosticate cavities (as, indeed, he is very slow to do), he considers that there is "considerable trouble," and thinks that the patient had better be kept in his own home, especially if there is impaired appetite and digestion, with hectic and rapid pulse.

Of the one hundred cases five exhibited undoubted tubercular laryngitis. Two of these recovered, one made some improvement, one became worse, and one died. A patient with an empyemic cavity on the left side submitted to resection of the ribs, and recovered so far as to attend to his business without difficulty. Two others, in whom the fibroid condition on the left side caused the heart to be drawn up and to the left of the nipple, were very much improved, and still improving. Another was taken with acute endocarditis about six months after his arrival, but came through it safely and is doing well. Five had had syphilis. Two of these were much improved, one somewhat improved, one became worse, and one died. Several weathered rheumatism or typhoid fever without additional damage to their lungs.

THE POSSIBILITIES OF LAPAROTOMY.

It will certainly be an encouragement to laparotomists to learn what can be done with the intestines without adding danger to the operation by sudden shock. A report comes to us from California of the following remarkable instance of vitality. A maniac performed hara-kiri in the presence of his companion, who was wakened from a sleep by the noise. Standing in the middle of the floor was the suicide, with protruding intestines. Policemen were summoned, and thus the account runs: "The man was still in the middle of the floor, standing in a lake of blood, tearing out his vitals, and cutting them off in sections and throwing them in a heap on the floor.

"The officers grappled with the maniac, but, notwithstanding his frightful loss of blood, he still possessed the strength of half a dozen men.

"After a desperate struggle, however, they succeeded in overpowering him. He was then handcuffed and taken to the Receiving Hospital. A great pile of intestines were left stringing about the room. When he was brought into the hospital three or four feet of his bloody vitals dragged upon the floor."

Nothing further in the shape of an operation could be done after getting the patient to the hospital, save trimming off a few of the remaining intestines to make him more comfortable. But he died two hours afterward.

THE ASH-CART NUISANCE.

One of the greatest nuisances of this city, and one that calls for a speedy abatement on the score of its menace to the health of our citizens, is the mode in which the ashes and garbage are removed. At one time it was the

practice to empty the dusty and foul-smelling barrels in the night-time, when most respectable people, except policemen and doctors, are safe at home, and this was perhaps the best that could be done. Lately, however, we have noticed that the rounds of the ashman are made once more in the daytime, and the lungs of passers-by are filled with the possibly disease-laden dust, and their stomachs are turned almost inside out (to speak after the mode of the ordinary citizen, and not in scientific terms) by the villanous odors of decaying animal and vegetable refuse. Cannot this nuisance be abated, and one of the miseries of life in a great city be thereby prevented?

News of the Week.

The Treatment of Influenza. — M. Henri Huchars, writing in the *Revue générale de Clinique et de Thérapeutique* of December 12, 1889, offers some suggestions concerning the treatment of influenza which may be of interest at this time. "In all epidemics of the disease," he says, "the most marked clinical feature is the adynamic character of the symptoms, and it is against this that treatment should be chiefly directed. For this reason preparations of cinchona, alcoholic beverages, and the like should be prescribed early; and in grave cases, when the prostration is profound, injections of ether or of caffeine may be needed. Quinine is usually indicated by the remittent character of the fever, and, for the control of this, should be given in one dose of from eight to fifteen grains in the forenoon. If the fever persists in spite of this, it may be well to give fifteen grains of antipyrine in the evening. But even when the fever is not high the use of quinine in tonic doses is advisable. In the rheumatoid or neuralgic forms, characterized by severe pains in the joints, muscles, and other parts of the body, we may resort to antipyrine in doses of fifteen grains two or three times a day. Instead of this drug we may use phenacetine or salol in eight-grain doses. When the disease assumes the broncho-pulmonary form the adynamia is commonly very pronounced, and the necessity for stimulants becomes even more pressing. The nourishment should consist chiefly of milk, which acts as a diuretic, and favors the elimination of the waste-products. Blisters are inadmissible in the pneumonia following influenza, which is pre-eminently a local manifestation of a general disease, for they do not benefit the local process, and only aggravate the general condition. Occasionally the dyspnœa, even when the pulmonary affection is apparently limited in extent, becomes extreme. In this case much benefit is often derived from the use of strychnine. Sometimes, especially in the renal form of the affection, the only thing that will relieve the dyspnœa is a venesection, though ordinarily this is the last thing to be thought of in a disease in which the adynamic tendency is so pronounced. In the gastro-intestinal form it is necessary to employ mild purgatives, such as castor-oil or calomel, and to obtain intestinal antisepsis by means of salicylate of bismuth, or of magnesia, naphthol, etc. If an emetic is at any time indicated, tartar emetic should never be used, but ipecac given in preference."

The Epidemic Influenza of 1847 was accompanied, according to Dr. Horace Dobell, with severe catarrhal symptoms of the upper respiratory passages. While this is not the case with the present epidemic, yet the directions for treatment given by Dr. Dobell in such cases are sensible, and will apply occasionally now. He enjoins the following measures: 1. It is best to go to bed at once, and take hot gruel, hot tea, and beef-tea for diet during the more acute state, resuming ordinary solid meals as soon as practicable. 2. The bowels should be kept well open (but not much purged) by any aperient known to act most kindly with the patient. 3. The use of the following inhalation should be begun immediately: ℞. Creasoti, 3 j.; olei caryoph., 3 j.; olei eucalypt. glob., ℥ j.; tr. camph. co. ad ℥ ij. Shake the bottle, and put one teaspoonful into a four-pound jam jar, nearly fill it with boiling water, wait two minutes to let the hottest steam pass off, and then hold the face well over the jar, and throw a large light handkerchief over the head and the jar; shut the eyes, and let the forehead and face be thoroughly exposed to the steam, which should be drawn up the nostrils and blown out at the mouth. Continue this as long as steam lasts (about fifteen minutes), and repeat every two hours. 4. In the interim, gargle occasionally with hot water, and let all secretions from the nose and throat be ejected. 5. Soon after the first inhalation, begin the following restorative febrifuge: ℞. Sp. camphoræ, 3 j.; sp. ætheris nitr., ℥ j.; tr. quin. ammon. ad ℥ ij. Ft. Guttæ. One teaspoonful stirred in a claret glass of water every three hours. 6. If the temperature rises above 101° F., take gr. v. of antifebrin in two tablespoonfuls of beef-tea, and repeat every hour till the temperature falls to 100°, continuing the inhalations and drops as before. 7. If pain or oppression at the chest sets in, apply hot poultices.

The Grippe or the Dengue.—At a discussion before the Académie de Médecine of Paris on the prevailing epidemic, the question was raised whether it was the epidemic influenza *la grippe*, or the dengue. The general opinion was that it was not the dengue, but that this latter disease has a striking similarity in some respects to the *grippe*.

A Brief Account of the Present European Epidemic. —The following brief history of the epidemic of influenza, so called, shows how closely the European disease resembles that which is prevailing in this country. It may briefly be described, says the Vienna correspondent of the *Medical Press*, to have taken its origin in or about Wassili-Ostrow and Kolomna, southwest of St. Petersburg, about the last week of October or the first of November, and rapidly spread north to the capital, filling the hospitals, barracks, etc., and paralyzing commerce. At this season of the year the atmosphere was unusually warm, moist, cloudy, with west winds. Within three weeks after its appearance the half of the population of St. Petersburg were rendered prostrate from its influence. Its contagion or infection is not at all satisfactorily proved. One in a family may be very ill, while all the others enjoy immunity. Again, whole families are laid down in rapid succession, and in others the half of the family may be exempted. It has no decided predilection for age or sex, although the very old are believed to escape its ravages. The incubation period is definitely fixed at two days, while the prodromal symptoms are but a few hours, whose description is given as prostration, headache, shivering, etc., as given in other infectious dis-

eases. The varieties of the fever itself are divided into three groups: 1. Those with pure nervous symptoms, as headache, pains in the limbs, neuralgic pains in trunk, as in pleuritis. The respiration and pulmonary mucous membrane normal, as well as alimentary canal. This form is the most common, and has on many occasions been diagnosed as typhoid. 2. The catarrhal form: Bronchial catarrh, sneezing, continuing several days after the fever subsides. 3. Gastric: Catarrh of the alimentary tract with persistent vomiting. Besides these varieties, a great number of other symptoms are given, common to all, as giddiness, hyperæsthesia, etc., which soon disappear. The temperature rises rapidly to 40° or 40.5° C. (104° to 105° F.); continues at this about two days and rapidly falls. The duration of the fever is usually three days; seldom five or six. Very little alteration of the spleen is observed. Convalescence is very variable, and seems to depend more on the intensity of the attack. Many feel themselves fit for work the day after the fever has subsided, while others suffer from nervous or catarrhal symptoms for days after. Relapse is not uncommon. Seven days after the patient has recovered, and is seemingly quite well, shivering again commences, and the whole symptoms are repeated.

The Man who Started the Grip.— Agrippa.

Pneumonia Prevails in this City to a greater extent this season than for many years past. In the meantime the epidemic of influenza is declining.

"Grip" patients have a Disagreeable Odor, so says Dr. W. Washburn, of this city, who has noticed it in several of his cases.

Chinese Physicians cannot Practice in New York without a License, so says the coroner's jury in the case of a Dr. Nam, who attended a Chinaman who died recently. The "Dr." has left his diploma in China!

Big Fees.—The doctors who attended the late King of Portugal during the last few weeks of his illness presented bills for their services amounting to nearly $100,000. One of them demanded $14,000 for ten visits, another demanded $17,000 for fifteen, while a third thought that $30,000 was not too much to ask for his attendance at eighteen consultations. Eventually the new King succeeded in effecting a settlement of their claims by means of a lump sum of $60,000. Of course this was polite robbery. In too many cases such estates are robbed. It seems to make no difference whether the patient is killed or cured, the bill for services is too often made out according to the size of the sick man's estate.

The New York Pathological Society.—The following officers were elected at the annual meeting of this Society held January 8, 1890: *President*—Dr. J. West Roosevelt; *Vice-President*—Dr. H. P. Loomis; *Treasurer*—Dr. J. H. Hinton; *Secretary*—Dr. T. L. Stedman; *Editor of the Transactions*—Dr. G. C. Freeborn; *Committee on Admissions and Ethics*—Drs. W. P. Northrup, H. P. Loomis, R. H. Sayre, J. S. Ely, and R. G. Freeman; *Committee on Publication*—Drs. T. M. Prudden and W. B. James.

Trichinosis.—Seven cases of trichinosis occurred in one family in Austin, Minn., last week, one, a boy ten years of age, died. The pork was not properly cooked, as usual.

City Lodging-houses. — Dr. Henry C. Crampton, of this city, read a paper before the Section on Public Hygiene of the Academy of Medicine advocating the enforcement of the law for city lodging-houses. We shall give his views on the subject in a coming issue.

A Healthy Society.—It is worthy of note, says the *Boston Medical and Surgical Journal*, that the average age of the decedent members of the Massachusetts Medical Society, so far as recorded, reached the high figure of *sixty-eight and one-half* years, a fact which speaks well for the salubrity of the conditions attending medical practice in the Bay State.

A Kilometric Title.—The Spanish Gynecological Society held its first meeting this winter on December 4th, under the presidency of Dr. Francisco Alonso Rubio. The introductory address was delivered by Dr. Enrique Oliván; the gist of it is sufficiently indicated by what the Spanish reporter calls its "kilometric" title: "Some reflections tending to show that the confidence at present inspired by anæsthetics, and the use of modern antiseptic methods, neither justifies nor excuses the practice, far too frequent nowadays, of intra-abdominal operations, and more especially of those termed exploratory laparotomies."

Politics and Pension Boards.—The *Kansas City Medical Index* states that the Pension Board of that city does not contain any of the regular and representative medical men, but has been selected from an "irresponsible horde" of "uneducated quacks" whose merit lies, it is presumed, in their political influence. The Kansas City physicians should take some interest in promoting civil service reform, if affairs are as their local journal indicates.

The American Physiological Society held its annual meeting in New York, December 29th. The Society elected the following council: H. P. Bowditch, J. G. Curtis, H. N. Martin, S. Weir Mitchell, and H. H. Donaldson.

A Fair Division of Service.—The Board of Charities and Correction of Philadelphia have decided to distribute the medical service of the Blockley Hospital equally among the medical colleges. But what about the good men and true who may not be professors? Naturally, they must be outside and look on.

The Late Professor Volkmann.—It is said that Schede, of Hamburg, will succeed the late Dr. Volkmann as Professor of Surgery at Halle.

Money for Charities.—The Brooklyn Board of Estimates has finished its labors for 1889 by apportioning among the various local charitable organizations the sum of $100,000, set apart for them from the money collected for excise fees. Sixty-five societies benefited by the fund, but, as usual, the Catholic organizations took more than half the entire sum distributed. Ten of them received $55,614.47. The fortunate ones were St. Catherine's, St. Mary's, St. Peter's, and St. Mary's Female Hospitals, the Holy Innocents' Union, the Home for the Aged in Eighth Avenue, and the Home for the Aged in Bushwick Avenue, St. Paul's Industrial School, the Roman Catholic Orphan Asylum, and the Convent of the Sisters of Mercy.

To Keep out Lepers.—The following order has been issued by Secretary Windom: Until further orders, no vessel shall be admitted to entry by any officer of the Customs until the master, owner, or authorized agent shall produce a certificate from the Health Officer or Quarantine Officer of the port of entry or nearest United States Quarantine Officer, that no person affected with leprosy was on board the vessel when admitted to free pratique, or, in case a leper was on board such vessel, that he or she, with their baggage, had been removed and detained at Quarantine. Second—Medical officers in command of United States Quarantines are hereby instructed to detain any person affected with leprosy found on board any vessel, but such officer will permit the departure on outgoing vessels of persons detained at Quarantine in pursuance of this regulation, provided such vessel shall be bound to the foreign country from which the said leper shall have last sailed.

The New City Hospital of Baltimore, Md., was formally taken charge of last week by the faculty of the College of Physicians of that city, on which occasion a reception was given to the medical profession at large.

Deaths from Hydrophobia.—The deaths from hydrophobia in London were fewer last year than in any year since 1868. As compared with 60 deaths in 1885, 26 were recorded in 1886, 29 in 1887, and only 14 in 1888, so that muzzling appears to have had good results.

The Middleton Goldsmith Lecture will be delivered by Dr. William Pepper, LL.D., Provost of the University of Pennsylvania, on the evening of January 15th, in the hall of the Academy of Medicine, at 8 o'clock. Subject, "Hepatic Fever."

The Late Dr. Lewis Hall Sayre.—At the annual meeting of the Alumni Association of the Bellevue Hospital Medical College, January 4, 1890, on the announcement of the sudden death of our much-esteemed President, Lewis Hall Sayre, M.D., the following resolutions were adopted: 1. That the Association receives this intelligence with deep sorrow, and mourns the loss of a member so efficient, so kindly, and so generous withal. 2. That we extend to the family our sincere sympathy in this their greatest hour of affliction. 3. That we attend in a body the funeral services of our late President. 4. That copies of these resolutions be sent to his family and to the prominent medical journals of this city for insertion. V. P. Gibney, M.D.; Henry Goldthwaite, M.D.; David Webster, M.D.

Non-tubercular Hæmoptysis.—Dr. T. J. Whitney, of Frewsburg, N. Y., writes: "I was much interested in your article from Sir Andrew Clark, on 'Non-tubercular and Non-cardiac Hæmoptysis.' The conclusions were sound. And allow me to add to conclusion 5: all of which relieve portal engorgement, a possible source, and, I think a frequent one, in all venous hæmoptysis. A half a grain to a grain of calomel, followed in twelve hours by a saline, giving perfect relief.

The American Medical Association of Vienna is the name of an organization founded with the object of looking after the interests of British and American medical students who go to Vienna to study. The Rev. Francis Gordon is secretary.

Equine Laryngoscopy.—Professor Polansky and Dr Schindelka, of the Vienna Veterinary School, have constructed a laryngoscope for horses, by means of which active treatment in cases of glanders can be carried out.

Castor-oil Sold by Druggists.—A French tribunal has recently decided that castor-oil, not being a pharmaceutical product, may be sold by grocers. The decision suggests the query whether the retail stores of this city, which deal in a great many pharmaceutical products, such as quinine, coca-wine, iron, etc., are doing this legitimately.

The Death of Dr. David Prince took place at his home in Jacksonville, Ill., on December 19, 1889. Dr. Prince was born in Connecticut, in 1816. He graduated in medicine at Cincinnati, and practised and lectured for a time in St. Louis. Dr. Prince was well known for his wide learning and his surgical skill. He was the first Illinois surgeon to use ether. For some years he had been at the head of a successful surgical sanitarium.

Salt for Headaches.—An English doctor reports over thirty cases of headache and facial neuralgia cured by snuffing powdered salt up the nose.

A New Antipyretic, called phenyl-urethan, is announced by Giacomini, of Turin. Its dose is about half that of antipyrin, viz., seven or eight grains.

Cleveland has a New City Hospital containing one hundred and fifty beds. The patients are all under the care of one physician, who receives a salary of $1,200. There is no visiting staff, and all the work, surgical as well as medical, falls upon the single medical officer.

Koch and the German Sanitary Department.—The great centre of the official sanitary inspection system of the German empire is "Das Reichs-Gesundheitsamt," and "Das Hygienische Institut," both presided over by the illustrious Koch. There is really no more unpretending physician or teacher in the whole Fatherland than Professor Koch, although his name is a household word all over the world, and the government has showered money, titles, and honors on him. A week or two ago I saw him enter a third-class car on the elevated railroad, while possibly none of his students would regard it consistent with the dignity of a "Musensohn" to travel in any but the second-class. Koch's charming simplicity is a refreshing contrast to the usually exhibited presumption of German celebrities, and reminds one of a distinguished American anatomist, who, inquiring once for the cause of the students' applause as he entered the lecture-room, learned that a tribute was paid to his new suit.—*Therapeutic Gazette.*

Zinc in American Dried Apples.—The Berlin president of police issued a few days ago an official warning against the use of American evaporated apples, which, it is stated, contain salts of zinc. This warning having been published in all German papers, it cannot fail to react on the American wholesale dealers of this article, who have thus far supplied the German market.—*Therapeutic Gazette.*

Remarkable Fecundity.—A lady in Corry, Pa., is reported to have given birth to three children within thirteen days' time. This would make on the average one every four days. One infant died, but the parents are reported in good health.

Gottingen, the famous German university, recently celebrated the inauguration of a new surgical clinic, which is probably the finest institution of the kind in the German Empire.—*Therapeutic Gazette.*

The New York Death-rate, last week, was 39.31, the absolute number of deaths being 1,202.

The Salem (Mass.) Hospital Trouble is caused by disagreements between the medical staff and management, occasioned by the overt attempt of the latter to insult and humiliate the former. The natural consequence has been a resignation of the medical staff. Thus history repeats itself.

American Association of Anatomists.—At the meeting of this society, held last week in Philadelphia, Dr. Leidy presiding, papers were read by Professor Burt G. Wilder, of Ithaca, N. Y., on "The Transition from Stratified to Calomnar Epithelium;" by Professor Harrison Allen, of Philadelphia, on "The Value of the Studies of Variation;" also by Dr. Wilder on "The Heart as a Basis of Intrinsic Toponymy," and by Dr. J. L. Wortman, of Washington, D. C., on "The Superiority and Cheapness of Bichloride of Mercury as a Preservative of Anatomical Specimens as compared with that of Alcohol."

A Curious Trial of an Unlicensed Practitioner.—In a recent trial of an unregistered quack in St. John's, N. B., it appeared that a member of the medical society appealed to the said quack for medical advice, pretending to be a patient. The quack responded, and prosecution followed, with conviction. On an appeal of the case, the justice decided in favor of the defendant, on the ground that the plaintiff prostituted a high and honorable calling by tempting the victim to a violation of the law.

A Suit for $5,000 Damages has been brought against Dr. Herman Knapp, of this city, for alleged neglect of a patient in his hospital, resulting in death from pneumonia after an operation for cataract. The defence is that there was no neglect whatever, as every medical man will readily believe.

Proposed Down-town Hebrew Hospital.—A movement has been on foot for a month past to start a new Hebrew hospital, the object of the founders being the benefit of resident Hebrews of the poorer class, and especially those living in the lower wards of the city, and on the great East Side. In Mt. Sinai Hospital Hebrews are admitted after a certain period of residence in the United States, but it is understood that in the proposed hospital all Hebrews may be admitted who are not otherwise cared for by the Jewish Immigration Society.

Boston's High Death-rate.—The number of deaths in Boston last week reached the probably unequalled number of 327, of which forty per cent. are due to acute lung disease and are traceable in a great part to the prevailing epidemic "la grippe." The death-rate is 40.77, whereas in the corresponding week of 1889 the rate was only 21.67.

Dr. Charles McMillan, medical referee of the Pension Bureau, and well known in army circles, died in Washington, D. C., January 7th, of pneumonia. Dr. McMillan was appointed surgeon in the volunteer service from New York, August 3, 1861, and was mustered out, October 7, 1865.

Testing the Electrocution Apparatus.—During the past week Harold P. Brown's instrument for execution was tested in the presence of experts, a horse and calf being the subjects. The old horse was killed first. A quantity of cotton was fastened to his head and around his right hind leg. Then the wires were attached and the current turned on. The contact of the current with the horse's body was less than half a minute. He was killed instantly. The current registered about 1,000 volts. Dr. Macdonald said that this confirmed the experiment which he and Dr. Rockwell had had with a horse at Edison's laboratory last summer. The horse killed then did not struggle. In the case of the calf, Dr. Macdonald said that the current was of the same voltage as the one used on the horse. The contact on the calf was less than ten seconds. As soon as the calf fell over, Dr. Fell went to work on its body to see if animation had simply been suspended. He performed the operation of tracheotomy, opening the windpipe, and kept up an artificial respiration for half an hour, but there was no sign of returning life. The heart of the calf could not be made to beat again, and the members of the commission were in high glee, because Dr. Fell's apparatus has been used with success in five cases upon human patients.

Syms Operating Theatre.—Work has just been begun on the construction of the new building to be known as the William J. Syms Operating Theatre of Roosevelt Hospital, which the late Mr. Syms, a wealthy New York business man, who died last spring, willed $350,000 to construct and endow. The new building, as we have previously stated, will be of granite, and will occupy the present garden-plot on the Ninth Avenue front of the grounds of Roosevelt Hospital. It will have a frontage of ninety feet on Fifty-ninth Street, and a depth of seventy-five feet, and will cost between $150,000 and $175,000, leaving nearly $200,000 for maintenance. The theatre will be for the free instruction in surgery of students and practitioners. The theatre proper will occupy the centre of the building, will rise to a height of three stories, and will have amphitheatre tiers of seats capable of accommodating three hundred persons. Around the amphitheatre will be built a one-story structure with plate-glass skylights, to be used for the manufacture of surgical dressings, implements, etc.

St. Louis Medical Society.—Dr. J. K. Bauduy was elected president of the St. Louis Medical Society at its recent annual meeting, and Dr. F. D. Mooney, vice-president.

The Risk of Fire in Hospitals.—By the direction of the Commissioners of Charities and Correction, Battalion Chief Fisher and Captain Welsh, of the Fire Department, have been making an examination of Bellevue Hospital, with a view to suggesting means for the better protection of the hospital from the danger of fire.

How is this about the Medical Law in Alabama?—At the recent trial of a quack in Alabama, for violating the provisions of the medical statute, and his conviction, it was ascertained that there was no penalty affixed to the crime. The alleged reason for this is that the law was so tampered with during its passage through the Legislature that the penalty was omitted.

Hay in Street-cars.—Medical Inspector Taylor, of Philadelphia, very properly declaims against the use of swamp hay in street-cars, as follows: "I have investigated the complaint about the use of swamp hay in the cars of one of the passenger railway companies," said the doctor, "and find that, during wet weather, the hay becomes saturated with water and loaded with the expectorations from scores of tobacco-chewers, the sputa from tuberculous lungs, and street filth from passengers' shoes. The moist exhalations from this mass of filth are pernicious and prejudicial to public health. If this hay is dried and used again the dust that is given off from the movements of the passengers finds lodgement in many delicate mucous membranes." Perfectly right, doctor, we agree with you in declaring the practice a public nuisance.

The Standard of Vision in the War Department.—The Secretary of War has directed that the standard for vision prescribed for the army may be departed from for the enlistment of members of the hospital corps, to the extent that applicants may be accepted who are subject to refractory errors, such as myopia, hypermetropia, presbyopia, and astigmatism, provided these errors are not excessive, and are not accompanied by ocular disease.

Twenty-five Cent Fees.—Camden pays its doctors twenty-five cents for each case of contagious disease reported. In many places the law makes it so clearly the duty of physicians to report such cases that a fee is not given, but if this fee stimulates the reporting of contagious diseases, the money is well spent.—*Sanitary News.*

Habitual Arsenic Eating.—On this subject Dr. Norman Kerr contributes a paper to the journal of the Society for the Study of Inebriety. The observations he records are sufficiently startling. He has known persons so to habituate themselves to the poison as to be able to take ten to fifteen grains daily, and profess to feel better for it. Ladies, he states, swallow arsenic to improve their personal appearance, and also use it externally for the complexion. Gentlemen are also addicted to this practice, and both sexes take doses of arsenic as a fillip and general tonic. Cases of this kind have been reported in this country.

Obituary.

JAMES H. HUTCHINSON, M.D.,

PHILADELPHIA, PA.

Dr. James H. Hutchinson died suddenly, December 27th, of uræmia. On Wednesday night he retired in good health, and on Thursday morning arose to take his bath. Some considerable time later he was found unconscious. Drs. Ashhurst and Sinkler were summoned, but medical skill failed to revive him, and he died without having uttered a word from the time he was stricken.

Dr. Hutchinson's is one of the oldest families in Philadelphia on both sides. His widow was formerly Miss Ingersoll, daughter of the late Charles Ingersoll. His father, the late I. Pemberton Hutchinson, was widely known and held a number of important public positions. It was during his consulate at Lisbon, Portugal, in 1834, that James H. was born. At the age of about four years the deceased came to Philadelphia with his parents. In early life he was sent to a boarding-school in New Haven, Conn. Later he returned to Philadelphia and entered the University of Pennsylvania, from which he graduated in arts and medicine in 1858. He then served a term as resident physician of the Pennsylvania Hospital, after which he spent a year in Europe, visiting the hospitals in Paris and Vienna.

Upon his return to Philadelphia he took up the practice of his profession and became prominent in a number of professional, philanthropic, and educational institutions. He was vice-president and honorary librarian of the College of Physicians; was an influential manager and chairman of the Household Committee of the Pennsylvania Institution for the Instruction of the Blind; was a trustee of the University of Pennsylvania, and took a deep interest in its progress. He was a director of the Philadelphia Library, and was an attending physician at the Pennsylvania and Children's Hospitals. Dr. Hutchinson was widely known in both professional and social circles, and was also a vestryman of St. James's Protestant Episcopal Church. He leaves a widow and five children.

The College of Physicians of Philadelphia passed appropriate resolutions to his memory.

LEWIS HALL SAYRE, M.D.,

NEW YORK.

Lewis Hall Sayre, a son and assistant of the eminent surgeon, Lewis A. Sayre, died suddenly, some time during the night of January 2d, of heart failure. He had been somewhat run down with overwork, and was in addition a sufferer from the prevailing epidemic, la grippe, but was not known to be suffering from any other disorders, and did not refrain from his professional duties. On Thursday he went to New Jersey to attend a patient, and returned to his father's residence, No. 285 Fifth Avenue, which was also his own home, late at night, after the other members of the family had retired. As he did not appear at breakfast, and his room and bed not having been disturbed, it was supposed that he was detained overnight in New Jersey.

While the family were at breakfast the office-boy arrived, and upon opening the office-door was terrified to find Dr. Sayre sitting bolt upright in a chair, cold in death. He had returned in the night, and, after throwing off his overcoat, had seated himself in the office. Apparently he had been taken with a difficulty in breathing, for he had torn his shirt and collar open. An autopsy held by Dr. Delamater and Coroner Jenkins showed a disordered condition of the liver and kidneys—a fact for the first time made known to his father and brother, with whom he was engaged in practice.

Dr. Sayre was born in this city in 1851. He obtained his general education in the College of the City of New York, and his professional diploma from Bellevue Hospital Medical College. He was an assistant professor of orthopedic surgery in Bellevue Hospital Medical College, a member of the Academy of Medicine, and of several State and national medical societies.

Everyone will feel the deepest sympathy for the bereaved father, who has thus twice been suddenly robbed of a son.

GEORGE D. PARMLY, M.D.,

SPOKANE FALLS, WASH.

The news of the death of Dr. Parmly, on Monday last, was a surprise to men who remembered Dr. Parmly as one of the strongest athletes that ever entered a college. He was a Princeton man of '76, and was in his thirty-fourth year when he died. His name is well known to all old Princeton men who took an interest in intercollegiate sports in 1875 and 1876. Mr. Parmly was a heavy-weight athlete. His chest measured 45 inches, he was 6 feet 1 inch in height, and weighed 185 pounds. He was very successful in his medical studies, and gave promise of a brilliant career, until his health broke down.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON THEORY AND PRACTICE OF MEDICINE.

Stated Meeting, December 17, 1889.

R. C. M. Page, M.D., Chairman.

Heating Carbonic-Acid Water without the Escape of Gas.—Dr. J. West Roosevelt exhibited "Warker's Ingenious Apparatus for Heating Carbonic-Acid Water without the Escape of Gas." In this apparatus, in order to deliver the gas in the water, when the latter is heated, a very ingenious valve is provided, by means of which the pressure of the gas is relieved by the gas being separated from the water and collected in what is called a pressure-chamber. The water passes off mainly by gravity, and a very large proportion of the gas is thus retained. Dr. Roosevelt said that he had nothing to say as to the therapeutic effect of thus retaining carbonic-acid gas in waters used medicinally while heated.

The Chairman said that at Carlsbad and other places where heated mineral waters were used, the process of heating invariably drove off all, or nearly all, the gas which they contained when cold, and he believed that the retention of the gas by means of the apparatus described would therefore be of very great practical advantage.

A Clinical Study of Cocillana.—Dr. R. W. Wilcox read a paper on "Cocillana." He said that his studies in apomorphia, the results of which had modified his treatment of acute bronchitis and given him a clearer idea of the characteristics which an expectorant should possess, had led him to seek further to find one which should be effectual in doses of longer interval and without the addition of the bromide, which was frequently objectionable. In May of this year there was placed in his hands a supply of the concentrated tincture of cocillana. The source of this drug was the bark of an undetermined species of guarea, which was discovered in Bolivia in 1886 by the eminent botanist, Professor H. H. Rusby, of the College of Pharmacy, who first brought specimens to this city. The principal physiological action of the drug in its crude state (powdered bark) was the production of nausea and a desire to vomit, with metallic taste in the mouth within half an hour after its administration; this nausea being accompanied by an early discharge of mucus, and later by dryness of the throat. Its action, then, might be stated to consist of stimulation for some hours of the vessels and glands of the mucous surfaces, more especially of the respiratory tract, with subsequent diminution of activity (sedation).

The dose of the concentrated tincture of the bark used varied from one-half to two fluidrachms, given every two to eight hours. He believed, however, that the fluid extract, in doses of from five to twenty-five minims, at the above-mentioned intervals, would, on account of the avoidance of alcohol, be more satisfactory in acute, and, probably, in chronic diseases. Having made a comparison of the effects of the drug with those of apomorphia in acute bronchitis, he stated that the expectorant effect of cocillana was not the first stage of nausea, as was shown by the fact that an increase of appetite was usually observed even under the administration of full physiological doses, while the fulness of the pulse under them remained unchanged.

Useful in Chronic Dry Bronchitis. — Dr. Wilcox related a number of cases in which cocillana was used, and went on to say that it was probable that in subacute and chronic dry bronchitis we found the larger field for its employment. The facts that its expectorant effect was more sure than either apomorphia or ipecacuanha in liquefying bronchial mucus, that it increased the appetite, and that it acted to some extent as a laxative, perhaps by stimulation of the intestinal muciparous glands, all commended it to us. Further, expectoration was not so much influenced by warm diluent drinks as in the case of apomorphia, ipecacuanha, or carbonate of ammonia, although cocillana itself would produce a slight perspiration. In chronic bronchitis with viscid expectoration it would render the sputum liquid somewhat more surely than ipecacuanha, and it had the further advantage of not causing nausea. At times, also, the formation of mucus seemed to be checked. On the other hand, in cases of senile bronchitis, particularly in cases of calcified costal cartilage, it might so markedly add to the bronchorrhœa that it became absolutely dangerous, and particularly because it was not a stimulant to the respiratory centre, like belladonna and strychnine. In these cases, then, it was useful only so far as it liquefied secretion.

Also in Chronic Pulmonary Disease.—Having related another series of cases, he said that in chronic pulmonary disease it could be seen that cocillana had almost its only use in liquefying secretion and relieving the acute exacerbations of associated chronic bronchitis. Under its use the cough and expectoration diminished, and the night-sweats, inappetence, and constipation were relieved, and in general it might be said to be preferable to ipecacuanha. Naturally, when cough was due to pleuritic exudation, or was laryngeal or pharyngeal, cocillana would fail, as would all the other expectorants. In the latter instances he doubted whether local applications of the drug would be effectual.

In conclusion, he stated that he believed cocillana to be superior to apomorphia, except in cases of acute bronchitis, when taken within the first forty-eight hours. It was certainly preferable to ipecacuanha, in that it did not so readily cause nausea and metallic taste in the mouth, and, moreover, assisted regular movement of the bowels. It must yield to carbonate of ammonia in chronic senile bronchitis, although the heart-beat and pulse became stronger under its use; nor could it stimulate the respiratory centre like strychnia. It was immeasurably safer in any stage of acute bronchitis than pilocarpine, because it did not depress the heart's action. On the whole, he believed that it could fully replace ipecacuanha (which was now becoming expensive from exhaustion of the supply) in every sphere of action, and that in many cases it could be substituted with advantage for apomorphia, carbonate of ammonia, strychnia, and other drugs, classed with more or less reason as expectorants.

Dr. H. H. Rusby, of Newark, N. J., exhibited some of the bark of the plant and also herbarium specimens, showing some of the immature fruit. He said that while many of the observations recorded in the paper had been confirmed by others who had experimented with the drug, Dr. Wilcox's investigations upon certain other points relating to this new medicine had resulted in positive discoveries. It was his own practice, if a case of bronchitis came under observation early, to push the cocillana vigorously, giving from 15 to 45 drops of the fluid extract every hour for twelve hours, if necessary. At the end of six or seven hours it could usually be seen whether it was going to have the desired effect or not. He said that he became acquainted with the plant in Bolivia, where his attention was first directed to it by the accounts given of it by the natives. As soon as he could get the opportunity he commenced experimenting with it upon his friends, in doses of 20, 30, and 40 grains of the powdered bark, and he found that these accounts were for the most part fanciful. The natives, he remarked, knew of only two uses for drugs of any kind, viz., to produce emesis and to produce catharsis; and he learned that they sometimes gave the cocillana in such large doses as to destroy life by the vomiting and purging caused by it. He had anticipated that it would prove a very useful remedy in pharyngitis and laryngitis; but in this he had been disappointed, since it proved too irritating when given in sufficiently large doses to produce the desired effect upon the system.

Eye Symptoms as Aids to Diagnosis.—Dr. D. C. Cocks read a paper on "Eye Symptoms as Aids to Diag-

nosis." The indifference of a large number of medical men to the eye he believed to be due to a lack of appreciation of the important bearings that eye symptoms have on diagnosis and treatment. He therefore proposed to bring to the notice of the Section an outline of the more important facts about the eye and its diseases, a knowledge of which was essential or helpful in diagnosis. Diagnosis, he said, was sometimes made from one pathognomonic symptom; at other times it could only be made by the careful study of the symptoms for months or years. It was therefore evident that an organ such as the eye, which gave pathognomonic signs in some cases, and in others symptoms which proved to be the key to the situation, could not well be turned over to the specialist on all occasions.

Diseases of the Lachrymal Apparatus.—He first took up the diseases of the lachrymal apparatus. Epiphora, he said, was at times the first symptom of facial paralysis. The orbicularis failing to keep the puncta in contact with the globe, the tears flowed over the cheek. The presence of dacriocystitis indicated something more than a localized inflammation. It indicated probably an obstruction in the canal or sac, the most frequent cause of which was a neglected nasal catarrh; or, if this was excluded, exostosis and periostitis, the result of syphilis. Where the inflammation persisted, in spite of judicious treatment, some other constitutional trouble would sometimes be found to account for it, as, for instance, diabetes mellitus.

Herpes Zoster Ophthalmicus was pathognomonic of changes (probably inflammatory) in the fifth nerve and gasserian ganglion. It was frequently mistaken for erysipelas, although its situation, on one side of the head, should prevent this; while the persistent neuralgia which followed the disease could not satisfactorily be accounted for when the case had been diagnosed as erysipelas.

Morning Œdema of the Lower Eyelids.—He next alluded to the universally known symptom of Bright's disease, morning œdema of the lower lids, and then said that the reddened margin of the lids (blepharitis marginalis) indicated a lowered condition of the general system, as well as errors of refraction, chronic conjunctivitis, and muscular insufficiencies. Pediculi of the cilia were sometimes mistaken for this condition, but they were usually associated with others on the pubis. The primary lesion of syphilis was sometimes formed on the eyelid or its margin, and the history of an indurated sore of this region should be carefully investigated. Ptosis by itself might mean pressure by syphilitic or rheumatic swellings, a trauma (such as fracture of the apex of the orbit), or a nuclear trouble suggestive of general or posterior spinal sclerosis.

The Exophthalmos of Grau's Disease gave the diagnosis of this condition before the history was taken. Exophthalmos of both eyes might indicate the presence of œdema, and cellulitis of the orbit, associated with and dependent upon a thrombus of a cerebral sinus. When exophthalmos was limited to one eye we might have tumors of the orbit or its neighborhood, or a syphilitic periostitis, or even an orbital hemorrhage from whooping-cough.

Derangement of the Ocular Muscles.—In speaking of the derangements of the ocular muscles he said that as a rule they sympathized with the general system, and wonderful results were at times obtained by the relief of oculo-muscular strain, where this had been the exciting cause of various symptoms in nervous individuals whose health had been below par. The correction of insufficiencies by prisms or tenotomies would often give an entirely new aspect to cases that were formerly obscure. When all the external muscles of the eye were paralyzed we had ophthalmoplegia externa, a disease not of the eyes, but of the central nervous system, the nuclei of the third, fourth, and fifth nerves in the floor of the fourth ventricle and the aqueduct of Sylvius being implicated. A recurring paralysis of the fourth, or third, or sixth was frequently the first indication of spinal sclerosis or of a general sclerosis. The nerves which supplied the ocular muscles traversed the cranial cavity for such a distance that, frequently, the first symptom of a basilar trouble or intracranial disturbance was evinced by the paralysis of one or more of the muscles supplied by these nerves; and the progress of morbid growths could often be watched by successive muscles being involved, and the exact location of the neoplasms thus accurately marked out. The nature of the diseased condition also could often be diagnosed by the grouping of symptoms, aided by the condition of the muscles.

The conjunctiva afforded many suggestions to the observant practitioner. Having referred to its condition in various febrile diseases, he stated that phlyctenular conjunctivitis was almost always indicative of lowered health, of eye strain, or of unsanitary surroundings. Chronic conjunctivitis had about the same significance, but was also associated with nasal or pharyngeal catarrh. Subconjunctival hemorrhages in pertussis were indicative of the presence of some paroxysms, while in the adult they seemed to have no pathological significance. An indurated ulcer of conjunctiva, as of the lid, might mean, and often was, the initial lesion of syphilis.

Phlyctenular Keratitis indicated eye strain, either with or without reduced health and unsanitary surroundings; and chicken-pox, measles, and scarlet-fever sometimes preceded this trouble. Interstitial or diffused keratitis was indicative of some constitutional trouble, and in a large proportion of cases it occurred in the young and was due to congenital syphilis. A smaller percentage of cases were due to secondary syphilis, and still others to some other form of dyscrasia, such as latent or hereditary gout. The presence of keratitis with hypopyon indicated the presence of infection from some quarter, possibly nasal catarrh, dacriocystitis, or carious teeth. In those cases where the cornea sloughed away without pain or distress in old people, we might know that their vital powers are much depressed, and their blood-vessels probably atheromatous. When the cornea was found to be cloudy or ulcerated, while the patient complained of no pain or photophobia, we had a keratitis due to a lesion of the fifth nerve. Sclerotitis and episclerotitis rarely occurred except rheumatism or the rheumatic diathesis was present; and Dr. Cocks said that he had now a lady under observation in whom this was the only symptom of rheumatism, and it was yielding to anti-rheumatic remedies, while her general condition was also improving.

Affections of the Iris.—Next, as to the iris. When we were confronted with an attack of iritis it was necessary that we should look for the cause of the inflammation, and an enumeration of the constitutional conditions which might give rise to iritis would show how important it was to make a thorough investigation of each case. Among those referred to were hereditary, secondary, and tertiary syphilis, gonorrhœa, malaria, variola, tuberculosis, rheumatism, and gout. At a recent meeting of the New York Ophthalmological Society he had reported a case of tubercular iritis, in which Dr. Richmond Lennox demonstrated microscopically the presence of tubercle bacilli, and then an examination of the child showed the presence of a phthisical process in progress within the chest. In his experience it was the presence of some one suggestive symptom that had often led to a diagnosis, where otherwise the case would have remained unsolved.

Condition of the Pupil.—After some remarks on the condition of the pupil in various affections, he said that in complete paralysis of the third nerve there were mydriasis and paralysis of accommodation, and that he had had under his care cases of diphtheria which were not recognized as such until dilatation of the pupil and paralysis of accommodation had occurred. The existence of mydriasis, together with other symptoms, might clear up a doubtful case of cerebral tumor or of syphilitic trouble of the base, or be indicative of a fracture through the apex of the orbit. Headaches not yielding to ordinary treatment might be due to weakness of the ciliary muscle, and the recognition of this condition would lead to its cure.

Ophthalmoscopic Signs.—Dr. Cocks next passed to the interior of the eye. The ophthalmoscope, he thought, should be in the hands of every practitioner, and as illustrating the facility with which a knowledge of its application might be acquired, he said he had had medical students clearly describe the fundus of the eye after one lesson. A choroiditis of the macula of each eye, occurring together or consecutively, attended with numerous dust-like specks in the vitreous, was almost pathognomonic of syphilis, either congenital or acquired. Its early recognition was of the utmost importance to the patient, and as the changes could be readily seen (when looked for) he had a right to feel aggrieved if his central vision was lost through neglect. That terrible lesion, metastatic choroiditis, so destructive to the eye, and at times to the lip, might occur in puerperal fever, in pyæmia, in typhoid fever, and in cerebro-spinal meningitis. In regard to the normal fundus he would say that its negative value in diagnosis could only be appreciated by those accustomed to look to the ophthalmoscope for aid; and in this connection he referred to a case of recent blindness, in which, after an examination of the urine, he was enabled to make the diagnosis of uræmic amblyopia by reason of the fundus being normal. A rapidly forming or soft cataract might be the first symptom that attracted attention to the presence of diabetes mellitus; while the existence of a soft opaque lens, with a scar in the cornea, besides proving that an injury had been inflicted, might also indicate the presence of a foreign body in the eyeball which required immediate attention.

Intra-cranial Changes.—Probably the most interesting part of this subject was the light thrown on intra-cranial changes and on general diseases by changes in the retina and nerve. The neuro-retinitis of Bright's disease, with its accompanying and almost pathognomonic changes in the neighborhood of the macula, were well known; and one of sufficient importance to demand the attention of every physician. Having referred to the retinitis of syphilis, he said that optic neuritis, especially if double, was one of the greatest aids to diagnosis, and related an illustrative case in which the patient suffered from vomiting and slight headaches, with vertigo at times, and in which, after careful examination, he pronounced the condition ophthalmoplegia externa, and the lesion, therefore, nuclear. Shortly afterward, however, he found double optic neuritis, which overthrew the nuclear theory, and established that of a slowly growing neoplasm. Atrophy of the optic nerve was one of a series of symptoms which might prove the previous existence of cerebro-spinal meningitis, basilar meningitis, gumma in the same region, alcoholism, fracture of the base of the skull, with involvement of the apex of the orbit, or tumor of the base pressing on the nerve or chiasm.

Disorders of Vision.—In speaking of disorders of function he said that a central scotoma for red was almost pathognomonic of tobacco-poisoning. Night-blindness occurred in commencing atrophy of the optic nerve, in extreme cases of anæmia from fasting, and in retinitis pigmentosa. Word-blindness, as a rule, accompanied lesion of the cortex cerebri; while acquired partial or complete color-blindness was indicative of nerve atrophy. Limitation of the field of vision was found in optic atrophy, glaucoma, and retinitis pigmentosa. When monocular hemianopsia existed, the condition was probably one of intra-ocular lesion, as of detached retina, etc., but when binocular hemianopsia was present, an intra-cranial lesion certainly existed, and this lesion was along the optic tract or in the occipital lobe of the same side as the loss of vision.

Sudden Blindness in Bright's Disease.—In conclusion he alluded to two points. In Bright's disease the patient sometimes suddenly became completely blind without a lesion of the fundus. The difficulty in such cases was evidently central, and due, in all probability, to œdema of the centres; for it should be distinguished by the aid of the ophthalmoscope from the loss of sight due to albuminurial retinitis. Acute glaucoma was sometimes mistaken for a bilious attack or hemicrania, and chronic glaucoma for incipient cataract. Here the increased tension of the eyeball, the dilated and immobile pupil, the limited range of accommodation, and the contracted field would soon settle the diagnosis, even without the aid of the ophthalmoscope, were these signs looked for.

Discussion.—Dr. H. D. Noyes said that the particular significance of the paper was its advocacy of a closer affiliation between the eye-specialist and the general practitioner. He regarded it as a great misfortune that in every specialty the tendency of the work was to narrow the field and shorten the view of the physician devoting himself to it; and if it should follow as a result of Dr. Cocks' paper that general practitioners should less frequently than now omit to make an examination of the eye, when this was called for in the course of their daily work, he believed that it would have accomplished a most excellent purpose. The whole subject, he thought, had been admirably presented in the paper. The range of affections in which the eye was concerned, to a greater or less extent, was immensely large. Not only was it connected with those of the entire cerebro-spinal nervous system and the peripheral nerves, but also with remote organs and the condition of the blood.

Pernicious Eye Symptoms in Anæmia.—Having referred to the eye symptoms met with in pernicious anæmia and diabetes mellitus, he stated that one of the latest contributions to our knowledge of this subject was the demonstrated fact that acute myelitis was able to give rise to lesions within the eye. In this connection he mentioned a case reported by Dr. E. C. Seguin, to the study of which he had himself also contributed, which was the first on record in which the results were confirmed by post-mortem examination. The autopsy showed that the central fibres were affected throughout. During life there had been a singular affection of the sight, and it was found that there were spots of inflammatory softening along the tractus opticus on one side only, while there was a small focus of inflammatory trouble in the papillæ of both optic nerves.

Dr. Noyes went on to speak of the implication of the ocular muscles, the impairment of accommodation, such as occurs in diphtheria, and certain appearances of the retina, and said, in conclusion, that, working as he did, constantly in a comparatively narrow field, he had often felt a sense of lonesomeness, of isolation from the rest of the profession. If, now, it could be brought about that the specialist and the general practitioner would not hold themselves so far apart from each other, he thought great good would result, not only to the community at large, but to the cause of medicine.

Dr. J. E. Weeks said that he entirely agreed with Drs. Cocks and Noyes, that if the general practitioner would make himself more familiar with eye symptoms, the community would be greatly benefited. It was not necessary that he should make himself acquainted with all the minute details of ophthalmic pathology (which, indeed, would require years of study), but he should at all events be familiar with certain symptoms constantly liable to be met with, by the early recognition of which the most serious consequences could sometimes be avoided. In illustration he mentioned the case of a gentleman residing in a neighboring town, who suffered very greatly from neuralgia, and was finally sent to New York for examination. Here it was found that he had already irretrievably lost his eyesight by glaucoma. Any neuralgic pain which was not clearly understood should, at least, awaken the apprehension of the attending physician, so that any such calamity as this might be averted, if possible.

The appearances of the lids sometimes were indicative of systemic conditions, and he had known the diagnosis of nasal diphtheria to be made in this manner. The diphtheria of the nasal passages had resulted in diphtheritic conjunctivitis, and if the attending physician had been familiar with the appearances of the latter, the diagnosis could have been made much earlier, and the life of

the patient (who died of the disease), might, perhaps, have been saved. It was only the grosser appearances of the eye in various conditions that it was necessary for the general practitioner to be able to recognize.

Ophthalmoscopic Examinations.—Dr. W. F. Mittendorf thought that since we had at our command such a mydriatic agent as cocaine, and since the ophthalmoscope was now so perfect an instrument, there was really no excuse for not examining the fundus when light was needed on a diagnosis, and he felt sure that if physicians in general would take the trouble to familiarize themselves with the use of the ophthalmoscope, they would find it, not only profitable but exceedingly interesting. He referred to interstitial keratitis as an indication of congenital syphilis, and in speaking of the retina, said that while sudden blindness was liable to occur sometimes in connection with disease of the kidneys, it occurred more frequently in cardiac troubles.

Cereberal Hemorrhage with Usual Difference in Size of Pupils.—Dr. Andrew H. Smith said that, as illustrating the point that sometimes a single symptom will enable one to make a diagnosis, he would relate a case which occurred some years ago, when he was attending physician to St. Luke's Hospital. A gentleman in one of the private rooms, suffering from some acute trouble, had so much pain one night that it was necessary to give him two hypodermic injections of morphia before he could be relieved. Some time after the second injection the patient was found to be in a state of coma, and the house physician, supposing that he was one of those individuals sometimes met with whose systems are abnormally affected by narcotics, naturally attributed the condition to the morphia. Dr. Smith was hastily sent for, and on arriving at the hospital he found that all the preparations had been made for a vigorous campaign against opium-poisoning. Before resorting to any active measures, however, he made a careful examination of the patient, and the first thing that struck him was the fact that the pupils were not so contracted as they would have been in the latter condition. He noticed, moreover, that there was some difference in the size of the two pupils, and that there was a deviation of the axis of one eye. In consequence of these appearances in the eyes an expectant treatment was adopted, and it now became evident that the patient had had an attack of cerebral hemorrhage, from which, indeed, he died the next morning. But for the information derived from an examination of the eyes, he would have been subjected to flagellation and the other ordinary active measures employed in narcotic poisoning.

Dr. Noyes, he said, would no doubt remember a case which he had seen with him, where the patient, in addition to a nervous twitching of the hand, something like writers' cramp, and a slight paresis of the leg, suffered from occipital pain, which appeared to be brought on by straining the eyes in reading. Under the use of the glasses prescribed by Dr. Noyes, not only was the occipital pain cured, but the trouble in the hands and legs was also very greatly relieved.

Dr. T. R. Pooley said that the paper of Dr. Cocks covered all the classes of cases in which eye symptoms were of service to the general practitioner in the way of diagnosis. There were some points, however, in which he could not agree with the reader. For instance, in his experience he had found that atrophy of the optic nerve in cerebro-spinal meningitis was not at all common. The disease of the eye which was most frequently met with in this affection was purulent choroiditis, and from this there generally resulted atrophy of the globe. He then went on to call attention to the significance of intra-ocular hemorrhage. This occurred, he said, where changes, either atheromatous or syphilitic in character, had taken place in the arteries; and where retinal hemorrhage was observed the chances were very strong that hemorrhages would occur elsewhere also. He regarded this as a very important point; so important, indeed, that whenever the retina showed this condition he believed it was the duty of the oculist discovering it to call the immediate attention of the regular medical attendant to it, since such a patient was liable to have intracranial hemorrhage at any moment.

Inadequacy of Ocular Muscles and Exhausting Diseases.—There was one thing that Dr. Cocks had said that was worthy of special attention, viz., that inadequacy of the ocular muscles may be due to exhausting disease of any kind. It was just now the fad to attribute immense importance to such inadequacy, and to perform repeated operations for the relief of the same. If many of these cases were left to themselves, or, what was better, if the patient were treated for his general condition by a sensible and intelligent family physician, the insufficiency of the ocular muscles would entirely disappear of itself. What such a patient needed was proper attention to his general health, and not special treatment from an oculist. He did not, however, of course, mean to say that cases did not sometimes occur which required to be treated by prisms, or even by tenotomy. As to the effect of general disease in producing asthenopia, he said that he desired to call special attention to uterine disease in this connection. In only a very small proportion of these cases of asthenopia was there any error of refraction; and the deficiency in accommodation would generally disappear under treatment appropriate to the general condition of the patient.

The Chairman said he heartily agreed with Dr. Pooley as to the great diagnostic significance of retinal hemorrhage. A year ago he was treating an officer of the United States Army, who was staying at the Sturtevant House, in this city, for Bright's disease. Dr. Loomis had been called in consultation, and the case was believed to be progressing very favorably, marked improvement having been shown. The patient was about to start for the South; but as he complained of some difficulty in his eyesight, it was deemed best, before leaving, to have his eyes examined by a specialist. Dr. David Webster was accordingly called in, and he found that the trouble was due to retinal hemorrhage. He also expressed the opinion, based on the condition revealed by the ophthalmoscope, that the patient was liable to die at any time from cerebral hemorrhage; and the correctness of this opinion was attested by the fact that he did die from this cause within twenty-four hours.

General Practitioners should watch Eye Symptoms.—In closing the discussion, Dr. Cocks stated that his object in writing the paper was to impress upon every general practitioner the importance of looking at the eyes of his patients. He had again and again heard physicians say: "I know nothing about the eye." It was their business, however, to know something about it, and he believed that no one could be fully equipped for the practice of medicine without this was the case. He did not mean that the general practitioner should be a specialist, but that he should have a general knowledge of those conditions of the eye which were associated with various diseased conditions in other parts of the body. Hence he did not believe that physicians were doing their whole duty to their patients in simply referring them to a specialist when any symptom about the eye attracted their attention. In conclusion, he referred to the differential diagnosis between glaucoma and cataract by means of the ophthalmoscope.

Treatment of Gonorrhœa by Sea-water.—Dr. R. F. O'Brien reports in the *British Medical Journal*, November 30, 1889, a number of cases of gonorrhœa treated by means of injections of sea-water. He had the injections given seven or eight times in the twenty-four hours, each injection being retained for a few minutes. The average duration of the disease under treatment was 8.87 days. In addition to the injections, the general treatment consisted in rest, dieting, saline aperients, and the avoidance of stimulants.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, December 6, 1889.

DR. FRANCIS P. KINNICUTT, PRESIDENT, IN THE CHAIR.

New Method of Opening the Brain.—DR. DANA showed a specimen illustrating "A New Method of Opening the Brain." The common method of opening the brain was Virchow's. As ordinarily carried out, this left the brain so mutilated that its subsequent preservation as a whole was impossible. Besides, the cuts were longitudinal, and, for immediate inspection as well as for subsequent microscopical examination, such cuts were very bad.

The method employed by the speaker was to make a single longitudinal cut through the corpus callosum, and the roof and floor of the fifth and third ventricles, entirely separating the two hemispheres and opening up the lateral third and fifth ventricles. The longitudinal cut is then continued through the corpora quadrigemina down to the aqueductus, and through the middle lobe of the cerebellum, laying open the fourth ventricle and aqueductus. Transverse incisions are now made in the cerebral hemispheres, beginning anteriorly and on the median surface.

These incisions are carried just to the cortex, but not through it, and they are made as closely together as was deemed necessary. The speaker described the levels used by himself. In finding the exact location of hemorrhages, and in determining the relations of the parts, he found this method vastly more satisfactory than the older one, and he very much wished that it might be generally adopted. It was not a new method, except in the essential point of leaving the cortex uncut, and in a few minor details.

Pachymeningitis Hæmorrhagica. — Dr. Dana also presented a specimen of "Pachymeningitis Hæmorrhagica." He said it was not a particularly rare lesion in his experience, although it was put down in many text-books as being only a pathological curiosity. He had seen three cases within a year. The one presented was rather interesting in connection with the symptoms. The patient, a woman about fifty years of age, was a chronic alcoholic, and entered the Bellevue Hospital in a state of alcoholism. Although she had not taken any liquor for several days, yet she lay in the state which usually characterized chronic alcoholics. She was stupid, and partially unconscious at times, and occasionally showed muttering delirium. She took food with difficulty, answered only a few questions, had no special fever. She continued this way about a week, and died of symptoms of pulmonary œdema and exhaustion. There was no sign of paralysis at any time. At the post-mortem he found a very typical form of pachymeningitis hæmorrhagica affecting the convexity of the right hemisphere. The dura showed at least four different fibrinous layers, indicating that there had been, at different times, as many as four effusions of blood with organization of the clot. The symptoms had resembled very much those of so-called wet brain, or œdematous brain. That had been his diagnosis, with, perhaps, a low grade of meningitis such as characterized alcoholism.

He believed it was beginning to be an accepted fact that these forms of meningitis were due to disease of the blood-vessels of the dura mater, perhaps very much like that which affected other blood-vessels of the brain in old alcoholics, syphilitics, etc.; that these vessels ruptured, a layer of clot formed which organized, the newly formed vessels in these clots again rupturing, and so on.

Cerebellar Hemorrhage.—Dr. Dana further presented two cases of "Cerebellar Hemorrhage." J. S——, aged sixty-one, laborer, admitted November 16th, 4 P.M., died at 5.45 P.M. Had been well, and was working, when suddenly fell down in an apoplectic stroke. He had no convulsion. He was brought to the hospital at once. He was unconscious, his breathing was labored, but not strictly stertorous; it soon assumed the Cheyne-Stokes character. There was no puffing-out of one cheek, as in ordinary cerebral hemorrhage. The pulse was about 100, hard, full, irregular. The eyes looked straight forward, but the head was inclined to turn to the left. There was a slightly greater resistance to movements of limbs on right side than on left, but not distinct evidence of paraplegia. The coma was so great, however, that positive determinations were impossible. There was no vomiting. The urine was drawn, and shown to contain considerable albumin.

The post-mortem revealed hemorrhage into the left cerebellar hemisphere, probably due to rupture of a branch of the superior cerebellar artery, the branch which goes to the dentated nucleus.

The second case was in a man about forty years of age, who was sent to a cell as an alcoholic, and it was therefore inferred that he must have shown some symptoms of ataxia and inco-ordination, as well as mental confusion. There was no paralysis, no hemianæsthesia, no evidence of central nervous lesion. He was in a cell a few hours, when he rapidly developed stertorous respiration, and died.

The post-mortem revealed a blood-clot in the posterior part of the middle lobe and a part of the right hemisphere of the cerebellum. This clot had burst into the fourth ventricle. The patient evidently had this clot when he entered the hospital, but it had not yet burst into the fourth ventricle. When the accident did occur, some hours later, it caused death. Dr. Dana thought it likely that his apparent alcoholic condition was due to this hemorrhage into the middle lobe of the cerebellum. Clots in the lateral lobe did not necessarily produce any change, but when they took place into the middle lobe one would expect some disturbance of that kind. He had looked over the records of the hospital, and had found that cerebellar hemorrhage had not been so very frequent. Among about fifteen cases of cerebral hemorrhage occurring in two years there were two in which the cerebellum was affected. He did not know whether that was the usual proportion, but he presumed it was not far from it.

DR. G. L. PEABODY said he would have to differ from Dr. Dana in his condemnation of the Virchow method of opening the brain. It seemed to him that there was less liability to overlook lesions of the white matter in that method than in his. Nor had he found Virchow's method one which distorted the brain, or prevented hardening the brain, or localizing lesions afterward. No portion was detached, and the brain could be folded up again like the leaves of a book. It seemed to him that it would be very difficult to improve upon.

Pachymeningitis Hæmorrhagica.—Regarding the frequency of pachymeningitis hæmorrhagica, he thought it was far more frequent than was commonly supposed. He had seen it a great many times, and in some cases in which it had not been suspected at all. Some had simply given a history of more or less headache, some had given no history whatever, and yet had died from rupture of the thin-walled, newly-formed blood-vessels. One who had had one attack was likely, on account of the thin walls of the newly-formed vessels, to have other attacks.

DR. V. P. GIBNEY said the case of pachymeningitis recalled one which he had treated very assiduously for several weeks, two years ago, under the impression that it was a case of tubercular meningitis. The boy had suffered from prolonged suppuration; had enlargement of the liver; gave a family history of phthisis; and for these reasons the head symptoms were believed by those who saw him to be due to tubercular meningitis. He recovered, but died about two years subsequently, when Dr. Gibney and Dr. Janeway made an autopsy, and found extensive pachymeningitis. There was no evidence of previous tubercular meningitis, although, as stated, the boy had shown a train of symptoms supposed by those who saw him to belong to the different stages, except the last one, of tubercular meningitis.

DR. ROBINSON inquired whether it was possible to make anything like a definite diagnosis of pachymeningitis before death.

Dr. Dana said he thought it was very difficult, the symptoms taking such various forms. Sometimes one observed hemiplegia, and symptoms very much like those of subcortical hemorrhage. Sometimes they took a course much like in an alcoholic subject. He had seen cases in which there were convulsions, and others in which there were none. He thought the main factors in the diagnosis related to the etiology. The cases were usually seen in pretty old people, or alcoholics, or the insane. If a person were not insane, were not alcoholic, and was of middle age, those factors would tend strongly to exclude pachymeningitis hæmorrhagica.

Dr. A. H. Smith asked whether he would include syphilitics.

Dr. Dana replied that he thought both syphilitics and alcoholics were to be included.

Dr. Peabody thought one was not likely to have an acute lesion of the interior surface of the dura mater without having a great deal of acute pain. That, he believed, was a factor almost always present in the class of cases under discussion, while it was not likely to be present in any marked degree in ordinary apoplexy. If with evidence of a cortical lesion there was a sudden development of acute pain (not gradual and progressive) of non-specific type, taking place in an elderly subject, he would say that the chances were rather in favor of pachymeningitis hæmorrhagica. He would not put it stronger than that.

Dr. Dana, in reply to Dr. Peabody, said that in skilful hands, no doubt, the Virchow method answered. But for ordinary routine use it was a bad method and was fundamentally defective, in that it left the brain sliced longitudinally instead of transversely.

Operation for Stenosis of Pylorus.—The President reported the condition of a patient eighteen months after "Loreta's operation for cicatricial stenosis of the pylorus." The case referred to had been published by Dr. William Bull and himself, twelve months after operation. On the first of the present month the patient's weight was one hundred and seventy pounds, a gain of thirty pounds since leaving hospital. His general condition was excellent, and he was able to pursue his usual vocation. On an ordinary mixed diet, with the exclusion of "sweets," he suffered from no distress of any kind during digestion at present, with the exception of occasional "heart-burn." There was a tendency to constipation, which was easily corrected by a mild saline laxative. The dilatation of the stomach, as estimated by filling and emptying the organ by means of the stomach-tube and noting the lower limit of dulness when full, was found to be the same as six months previous. The President believed that little further change in this respect was probable, the continued dilatation being due to overstretching of the stomach during a long period before the operation, and not to any present stenosis. The latter condition seemed very improbable in view of the present digestive power and the condition of the patient.

The Therapeutics of Typhoid Fever.—Dr. George L. Peabody read a paper entitled "A Contribution to the Therapeutics of Typhoid Fever." He said the results in the treatment of typhoid fever continued to be so bad in general, in this country, as to constitute a chronic opprobrium to the art of medicine here. We did not seem capable of approaching, at least in New York, the low rate of mortality which had rewarded the efforts of the medical profession in many cities of Europe; it was not sufficient explanation to say that we had a larger percentage of bad cases. He believed, too, that the fact that we had not yet arrived at anything at all resembling a general consensus of opinion regarding its treatment was further evidence that very many cases must be improperly treated, and that thus much of our high mortality was to be accounted for. Those who still adhered to the expectant plan of treatment were in the large majority here. In this plan practically nothing was done unless symptoms in themselves disturbing or grave, or even threatening, developed, and then much was often done that was likely to be pernicious. Doctors of this class seemed to be pretty well in accord as to the proper plan of procedure, and to believe that a simple symptomatic treatment was the rational one. If the patient had headache he received the bromides, or an ice-cap, or both. If a bronchitis developed he was given opium, or cough mixtures, or inhalations; if hemorrhage from the bowel occurred, to opium was added tannic acid or gallic acid, or some other equally useless or disturbing drug; and so on. But most pernicious of all, if his temperature reached what was considered a dangerous height, an elevation which, if long continued, would become incompatible with life, he was given a large dose of some antipyretic drug, and the temperature was suddenly reduced perhaps several degrees below normal. Often this objectionable procedure was repeated in an almost rhythmical way for several days or weeks; and if, accompanying the fall of temperature thus produced, there were a degree of prostration and feebleness of the heart which was alarming in itself, then to counteract this bad symptom, for which the drug and the doctor were responsible, alcoholic and other stimulants were given in large amount. This method its advocates dignified by the appellation *rational*. Dr. Peabody thought it would be difficult to devise a more *irrational* method than the *symptomatic* one carried to its logical issue. It would be quite as proper to treat perityphlitis symptomatically, giving purgatives for the constipation; and in any disease, withholding food or drink because the patient might have no appetite or thirst.

Unfortunately, those of us, on the other hand, who believed in treating the disease upon some other and more definite system, were very far still from being in accord as to the best method to pursue in the average case. One possessed of any facts bearing on the therapeutics of this disease need offer no apology for presenting them.

During the past year it had fallen to the reader's lot to treat about fifty typhoid patients, chiefly in the New York and Bellevue Hospitals. It would be premature to say the results were due to the treatment, inasmuch as this number was small. They were in the main satisfactory. The fever prevailing last year seemed of less severe type than usual in New York; this year it seemed fully up to the average degree of severity.

Antisepsis.—Last year he had made systematic trial of treatment by antisepsis, resorcin and beta naphthol being used in the New York Hospital. These drugs were given in full form, and always coated with keratine to insure them against effects of stomach-chemistry. When the patients entered the hospital within the first ten days of the disease, the routine method was to administer a calomel purge of ten grains, and immediately follow it by a dose of one of the antiseptics, which was repeated at varying intervals day and night, as a rule, until the temperature became normal and remained so. Thirty-three well-marked cases of this disease came under his care in the New York Hospital last year, and of these twenty-seven were treated antiseptically. But little use was made of any of the newer antipyretic drugs, though in some cases occasional doses of phenacetine were administered, but formed no part of the treatment.

He remarked that the effects of the antiseptics upon Ehrlich's reaction were interesting. This reaction, even though it might have been ever so plainly present when the patient began treatment—and it was so almost invariably—usually disappeared after the first few doses, and remained constantly absent while the drug was being given. It promptly reappeared if the drug were stopped during the pyretic period.

Beta Naphthol.—Of unpleasant consequences of beta naphthol he had to record the occurrence of blood, albumin and casts in the urine in a few patients, which, however, disappeared promptly when the drug was stopped. Resorcin produced absolutely no unpleasant effects.

The effects upon the temperature and duration of the disease seemed sometimes quite unmistakable, and to be

about the same with either drug. In six cases the fever lasted seventeen days or less, in three it lasted only two weeks, in nine it ceased entirely in just three weeks from the date of commencement. In the other cases it lasted generally about four weeks, and did not seem to be materially influenced by the treatment. Five of the twenty-seven patients died, but of these one was under treatment only one day, two only two days, and a fourth only six days. Death was due in one case to extensive ulceration of the colon, with profuse and wasting diarrhœa, in one to profuse hemorrhage, in one to lobar pneumonia, and in two to parenchymatous nephritis. The two latter were treated by beta naphthol and resorcin, respectively, one and six days, and in consequence of its short duration the treatment could hardly be considered the cause of this grave symptom. The height of the fever seemed to be more markedly affected than its duration, and the comfort of the patients was proportionately promoted. Usually it ranged between 100° and 102° F. Milk was always the chief, and usually the only, food.

Antipyretic Effect of Cold Water.—The author said it would be a source of great regret to him to give the impression that he considered this method of treatment as worthy of comparison with the antipyretic method, *i.e.*, the antipyretic effect of cold water applied to the surface of the body. It seemed to him that anyone at all open to conviction by statistics could not but admit that the recent statistics of Brandt, as quoted by Professor H. C. Wood in a recent edition of his text-book on therapeutics, made a marvellously good showing for the cold-water treatment. Unfortunately, two apparently unavoidable facts strongly militated against as good results from this form of treatment here as were obtained in Germany and Austria. Patients here entered the hospitals later, scarcely ever in the prodromal stage, and we had a constantly shifting attendance of doctors, house-staff, and nurses. In the face of these discouraging facts, he had lately been trying to accomplish the principle of Brandt to a certain extent by other means than the cold bath. They received into Bellevue Hospital a considerable number of patients suffering from typhoid fever, but they were largely from the poorly-fed, badly-nourished, and intemperate classes, and they usually came under treatment late in the disease. Many of them did not bear the cold full-bath well; the depression which it caused seemed to be too profound, and the reaction slow. Accordingly, he had been trying to keep the temperature of these patients constantly at or below 102° F. by the cold pack, however frequently it might be necessary to apply it. Only occasionally was one encountered in whom the pack, when properly applied, was not capable of causing a prompt reduction of temperature. In that event a small dose of an antipyretic drug was administered. Large doses should not be given. Used in small and frequent doses, to supplement the effect of the cold pack, he believed they became of distinct value. The cold pack proved rarely necessary oftener than four or five times in the twenty-four hours, in keeping the temperature under 102° F. During the past few weeks he had subjected eleven cases in Bellevue Hospital to treatment by the cold pack, with very satisfactory results. All recovered. All were adults, most of them made up of poor material; in most the temperature had been persistently high; they came under treatment late in the disease, that is, after it had lasted two weeks or longer. It was a matter of greater importance than was commonly supposed that these patients should not be kept too warmly covered in the intervals between the packs.

On the whole, the method of treatment by the wet pack had been more gratifying to him than that by the internal use of antiseptics; but he wished again to emphasize the importance of using it systematically, and so frequently as to keep the temperature always below 102° F.

[The interesting discussion which follows this paper will appear in our next issue.—ED.]

(To be continued.)

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 29, 1889, to January 4, 1890.

JARVIS, NATHAN S., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, par. 1. S. O. 180, December 6, 1889, Department of the Missouri, transferring him from Fort Lewis, Col., to Camp Wade, Kingfisher, Indian Ter., is confirmed. Par. 6. S. O. 303, A. G. O., December 30, 1889.

MEARNS, E. A., Captain and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted him in S. O. 244, October 19, 1889, from this office, is extended two months. S. O. 303, A. G. O., December 30, 1889.

POWELL, JUNIUS L., Captain and Assistant Surgeon. By direction of the Secretary of War, ordinary leave of absence for two months is granted him, in extension of the leave of absence on account of sickness granted him in S. O. 258, November 5, 1889, from this office. Par. 1, S. O. 1, A. G. O., January 2, 1890.

CAHILL, JULIAN M., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted him in S. O. 249, A. G. O., October 25th, is extended one month. S. O. 304, A. G. O., December 31, 1889.

Official List of Changes in the Medical Corps of the United States Navy for the week ending January 4, 1890.

CLARK, JOHN S., Medical Inspector. Ordered to the Baltimore.

DIEHL, OLIVER, Passed Assistant Surgeon. Ordered to the Baltimore.

STILT, E. R., Assistant Surgeon. Ordered to the Baltimore.

SMITH, HOWARD, Surgeon. Ordered to the Alliance.

GATEWOOD, J. D., Passed Assistant Surgeon. Ordered to the Despatch.

TRYON, J. R., Surgeon. Ordered to the Naval Medical Examining Board.

SCOFIELD, W. K., Medical Inspector. Ordered to special duty at New York City.

GUITERAS, D M., Passed Assistant Surgeon. Ordered to the Naval Hospital, Philadelphia. Pa.

A Vigorous Centenarian.—There is living in Bolivar, Pa., an old gentleman, named William Reese, who was born in England on June 15, 1778. He has always enjoyed excellent health, the only illness that he can recall being a slight attack of sciatica a few years ago. His hearing is impaired, but his eyesight is still good, and he can read without the aid of glasses. He was always very temperate in every way, having made it a rule to rise from the table unsatisfied, and although he is a pretty constant smoker, his method is to go out on the porch for a few whiffs and then return to his seat at the fireside. He is a very interesting old man to talk with, and steadily declines all assistance but that of his cane in going about. His father and grandfather are both said to have lived to be over a hundred years old, and his mother also had passed the century line at the time of her death. He has had five sons and five daughters, all of whom lived to maturity, but the special strength of constitution seems to have been inherited only in the male line. Of the sons but one is dead, and he was killed in the war, while of the daughters three are dead, one from phthisis, another from cancer of the breast, and the third from ovarian cyst.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 4, 1890.

	Cases.	Deaths.
Typhus fever	1	0
Typhoid fever	11	7
Scarlet fever	75	11
Cerebro-spinal meningitis	1	1
Measles	37	7
Diphtheria	95	31
Small-pox	0	0
Varicella	0	0
Cholera	0	0

The Epidemic Influenza—Report of the Committee on Hygiene of the County Society.—When reports on the "Grippe," which tended to alarm the public, began to appear in the newspapers, the Chairman of the Committee on Hygiene of the County Medical Society, Dr. S. Baruch, called the members together for the purpose of discussing measures for allaying public alarm, and at the same time investigating the true status of the epidemic. The Chairman thought that the large number of deaths reported was probably due, indirectly, to the influence of the epidemic upon the numerous cases of chronic disease which in every large community are hovering at the brink of the grave, and he asked the Committee to take whatever steps they thought proper in the premises. It was resolved at the first meeting to request Dr. Hunter to call a meeting of the County Society, to which alone the Committee is responsible. Upon a conference between the Chairman and Dr. Hunter, a change was decided upon, which, being submitted to the Committee, was adopted, viz., to invite a number of active practitioners to a conference at the house of the Chairman, 47 East Sixtieth Street, to discuss the subject of Epidemic Influenza. The discussion was entered into by Dr. Lewis Smith, Dr. Hunter, Dr. Rodenstein, Dr. Tuttle, Dr. Lustgarten, Drs. Chapin, Emerson, Page, and the Chairman. The contagiousness of the disease was thought probable by Drs. Smith, Tuttle, and Lustgarten. Its specific character presenting all evidences of an infectious disease was universally accepted. The various types presented by the epidemic were of interest. Drs. Chapin and Baruch cited cases of children, each one case, in which it was initiated by a convulsion. Dr. Baruch reported two cases with an erythematous, and one with a papular, eruption; gastro-intestinal disturbance was referred to by Dr. Hunter. Dr. Chapin thought that we may distinguish one type as an acute febricula. There was a consensus of opinion with regard to a tendency to lower the vital powers in nearly every case. Purgatives had produced faintness, and Dr. Page dwelt especially on distinct evidence of heart-failure in many cases. Dr. Hunter reported three deaths, one in a case of chronic fatty heart, and two in cases of chronic bronchitis. It was the opinion of the gentlemen present that, up to the present time, the epidemic does not present alarming features. There are certain phases of it, however, that tend to develop bronchitis and pneumonia. A prominent characteristic of the disease, the tendency to lower the vital powers, calls for great caution on the part of those attacked to avoid exposure and fatigue during convalescence. The ubiquitous reporters, whom the Committee had thought to escape by changing the place of the meeting from the Academy to the residence of the Chairman, discovered the plot, and insisting upon obtaining the results of the discussion, were furnished the "opinion" above given.

Vaccination on the Congo.—It is stated that vaccination is being introduced among the natives of the Lower Congo by the doctors of the Belgian Expedition.

Phosphorus in Diabetes.—Dr. Balmanno Squire relates the history of a gentleman, sixty years of age, who was brought to him suffering from eczema. He also had diabetes. Phosphorus was ordered for the relief of the eczema, which it benefited very much, but at the same time it seemed to exert a most favorable influence upon the diabetes. The amount of urine passed in the twenty-four hours was greatly diminished, and the thirst, from which the patient had suffered greatly, caused very little annoyance.—*British Medical Journal*, November 30 1889.

Iodide of Ethyl in Bronchitis.—Dr. Robert Main has found iodide of ethyl in 10-minim doses, sprinkled on a handkerchief and then inhaled, very beneficial in cases of bronchitis complicated with Bright's disease, and fatty heart with feeble circulation (*British Medical Journal*, November 30, 1889). It is especially useful when the bronchial secretion is viscid and there are urgent symptoms of dyspnœa. About five minutes after the inhalation the patient coughs and expectorates freely, which relieves the distressing dyspnœa.

Madrid is blessed with one physician to every seven hundred of its inhabitants.

Medical Schools in Turkey.—A Hungarian journal gives the following particulars as to medical education in Turkey. In the whole Turkish Empire, including Egypt, there are five medical schools; two (one at Constantinople, the other at Cairo) which rejoice in the title of "Imperial," and three founded and kept up by missionaries, two at Beyrout and one at Aintabia. The Medical Faculty of Constantinople was established by Sultan Mahmud in 1833; at first the official language was French, but this is now gradually being replaced by Turkish. The curriculum extends over six years. Up to the present time fourteen hundred diplomas have been conferred by this Faculty. The Cairo school was established in 1827. The course of study there lasts six years and eight months. The average number of practitioners who yearly obtain their qualification from the Cairo Faculty is twenty. In the missionary schools the curriculum extends over four years, but they cannot give a legal license to practise; in order to obtain this candidates must pass an examination at Constantinople or Cairo. Foreign practitioners have to undergo a *vivâ voce* examination, the scope of which, however, is merely to discover whether the candidate is a genuine medical man or not. This examination is usually held in French, but if the candidate is ignorant of that language he may be examined in any other, with the help of an interpreter if necessary.—*Medical Recorder*.

Poisoning by Potatoes.—Dr. Cortail reports in the *Archives de Médecine militaire* a number of cases of poisoning by new potatoes. The most prominent symptoms were headache, dilatation of the pupil, colic, diarrhœa, sweating, feverishness, epigastric pain, vertigo, and sick stomach.

Ricord's Paste consists of pure sulphuric acid and powdered charcoal mixed together to form a thin paste.

Compulsory Notification of Disease.—Dr. Charles H. Bowen, of Washington, suggests the passage of an act in all the States giving to physicians a fee of two dollars for every certificate of birth, death, and contagious disease, and one of from ten to one hundred dollars for testimony at a coroner's inquest, or in any judicial proceeding.

Putting New Wine into Old Bottles.—Dr. Theodor Clemens, writing in the *Allgemeine medicinische Central-Zeitung*, proposes the injection of the freshly passed urine of a child into the bladder for the cure of chronic cystitis in aged persons. The bladder is first thoroughly washed out, and then filled with urine which has just been passed by a healthy child. He claims to have obtained excellent results with this novel therapeutic agent.

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THE PHARMACOPŒIA OF THE UNITED STATES.

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As there can be no therapeutics without materia medica and pharmacy, and as purity and uniform potency are necessary qualities in all medicines, every physician owes it to himself and to his art to do his share toward providing and maintaining proper and authoritative standards for the drugs and pharmaceutical preparations he employs.

Every civilized nation has its pharmacopœia. In all countries except the United States the national pharmacopœias are compiled, revised, and published by governmental authority; in all countries, the United States not excepted, have the national pharmacopœias the authority of law. The standards of purity and strength fixed by the United States Pharmacopœia have been repeatedly recognized in legislation and sustained by the courts. Were it necessary, we could readily demonstrate the absolute necessity of authoritative legal standards of this kind, and that the one code of such standards must be *the* National Pharmacopœia; but these propositions seem so self-evident as to require no demonstration.

But—do all the physicians of the United States, and all the pharmacists, fully appreciate the character and importance of their Pharmacopœia? Deplorable as it is, not one-third of them possess it! The case is far from hopeless, however, for a far greater proportion of the physicians and pharmacists own copies of the Pharmacopœia of the United States now than at any previous time in its whole history, and greater interest is manifested in the work.

The present Pharmacopœia of the United States is one of the best in the world; but one great blemish attaches to it, as well as to all other pharmacopœias. This blot upon it is so serious as to lower its dignity and detract from the respect and recognition which it ought to merit and receive. The next Pharmacopœial Convention, which is to convene at Washington on the 7th of May, 1890, ought to correct the evil, and if the matter is rightly understood there should be no difficulty about it.

The medical profession can do much to make the Pharmacopœia of this country an example worthy to be followed by all other countries, in the important direction which the writer proposes to point out in this appeal; and it is hoped that the physicians will take a sufficiently lively interest in the question to attend the Convention in as great numbers as the pharmacists.

In 1880, when the last National Pharmacopœial Convention was held, the medical colleges and societies were more strongly represented than ever before, thirty-two of these bodies having appointed sixty-two delegates, of whom forty-five were present, aside from the delegates sent by the Medical Departments of the Army, the Navy, and the Marine Hospital Service. But unless the medical societies and colleges generally take greater interest in the next Convention, they will be in the minority as decidedly as they have heretofore been in the majority. In the Convention of 1880 there were only eleven pharmaceutical bodies represented; but at that time only the colleges of pharmacy were entitled to representation, and nearly all of those then in existence were actually represented; while now there are about thirty colleges of pharmacy, and probably about fifty pharmaceutical societies, which are entitled to representation, and will undoubtedly be there through their delegates.

That the actual work of revision of the Pharmacopœia should be done chiefly by pharmacists is not only natural but necessary; but the medical profession also have their duty to perform, and it would be fatal to the character, value, and authority of the national code should it fail to receive active co-operation and full recognition by the medical colleges and societies.

The British Pharmacopœia is issued by the General Medical Council, although the details of the work are necessarily for the most part entrusted to pharmacists. The German Pharmacopœial Commission consisted of six clinical practitioners, six physicians, six pharmacologists, six chemists, six pharmacists, two army surgeons, and one army corps staff-apothecary. In other countries also the custody of the pharmacopœial interests is largely in the hands of the medical profession.

In 1879 an effort was made to take the Pharmacopœia of the United States out of the hands of the pharmacists entirely, and to place its publication and periodical revision in the exclusive charge of the American Medical Association; but that effort was fortunately unsuccessful, the Association declining to accept the charge.

Both physicians and pharmacists are equally and vitally interested in the Pharmacopœia, scientifically, professionally, and legally. But no past or present pharmacopœia, of this or any other country, can command that degree of respect and allegiance which should be freely accorded to such a code, because the true character and functions of a pharmacopœia have never yet been fully recognized and asserted. The object of this paper is to appeal to the medical and pharmaceutical professions of the United States to give to their future Pharmacopœia its true character.

The Pharmacopœia is looked upon as an index of authorized drugs and preparations, with formulas for the latter. And yet that is precisely what no pharmacopœia in this enlightened age can or should be, and until that blighting notion shall have given place to a more rational, consistent, and scientific understanding of the true scope and functions of the book it will not be able to command due respect on the part of enlightened physicians and pharmacists.

These statements will probably strike many readers as extravagant; but the writer is hopeful that a mere showing of the facts upon which they rest will prove sufficient to warrant them.

The blemishes which we will point out are such as result from the false idea which has been permitted to prevail regarding the nature of the Pharmacopœia, and will be at once swept away as soon as its true function shall be recognized and fixed.

One of the serious errors of which we have been guilty all along in the revisions of pharmacopœias is the inherited conceit that a Pharmacopœia is, or ought to be, an index of authorized medicines, in the sense that medicines *not* contained in the Pharmacopœia are understood to be not yet sufficiently tried, or not approved, and that age is not only an absolutely necessary qualification, but even the most important of all qualifications, for the admission of any remedy into the official codex. This ultra-conservative notion has not only kept out of the pharmacopœias many new and valuable remedies—which is cer-

tainly a disadvantage—but it has had the very bad effect to cause the retention in all of the pharmacopœias of a lot of obsolete, trashy, wholly absurd concoctions, which disfigure it and lower its character. No pharmacopœia is clean and respectable which is loaded down with compound therapeutic mixtures and other articles which have nothing to commend them except their antiquity and their reputation among the credulous or ignorant.

The recently revised issues are, of course, cleaner than their predecessors, but a great deal still remains to be done before the pharmacopœias are sufficiently purged.

The German Pharmacopœia contains a less number of questionable and superfluous preparations than any other, but it has 20 different kinds of ointments, 9 plasters, 5 mixtures, 5 liniments, 10 waters, 8 powders, 5 teas, 13 spirits, 19 syrups, 6 wines, and several compound tinctures; and among these preparations we find such things as the old "Four Thieves' Vinegar," Zittmann's Decoctions, Hoffmann's Stomach Elixir, Hoffmann's Balsam of Life, Elixir of Long Life, two kinds of Opodeldok, Carmelite Spirit, Stomach Bitters, Sydenham's Liquid Laudanum, Nervine Ointment, etc.

The British Pharmacopœia contains 12 different kinds of troches, 21 kinds of pills, 43 ointments, 14 plasters, 8 kinds of suppositories, 28 infusions, 13 decoctions, 10 mixtures, 16 liniments, 14 waters, 6 poultices, 8 confections, 5 enemas, 15 compound powders, 15 kinds of spirits, 6 inhalations, and 10 wines.

The French Pharmacopœia contains 20 kinds of troches, 23 kinds of pills, 29 ointments, 7 cerates, 14 plasters, 36 waters, 71 infusions, 7 decoctions, 89 syrups, 20 wines, 22 liniments, 21 juices, 3 chocolates, 5 lemonades, 11 potions, 11 baths, 6 fumigations, 6 kinds of cigarettes, and 1 beer!!! And among the official titles in that pharmacopœia are still found, in the year 1890, the following names: Vulnerary, laxative, purgative, sudorific, antiscorbutic, catheretic, escharotic, sedative, dentifrice, vesicatory, resolvent, carminative, diuretic, emollient, pectoral, fumigant, astringent, soothing, digestive, "ante-cibum," antipsoric, nervine, antispasmodic, sternutatory, and antiseptic. The French Pharmacopœia has a number of "alcoolates" with from 3 to 19 different ingredients, an "alcoolature" with 19 substances in it, mixed teas with from 4 to 20 constituents, a "pommade" with 8 ingredients; its compound syrup of rhubarb has 10 ingredients, the compound syrup of ipecac 9, and the compound syrup of erysimum 14, one of its vinegars has 14 ingredients, it contains four electuaries having from 10 to 15 ingredients, and one electuary composed of 58 drugs!!! Can such a pharmacopœia command respect?

The Pharmacopœia of the United States is not as richly supplied with ready-made prescriptions and absurd polypharmaca, but it is not free from them. It sets before us 16 kinds of troches, 15 kinds of pills, 26 ointments, 8 cerates, 17 plasters, 11 mixtures, 10 liniments, 14 waters, 34 syrups, 20 spirits, etc. Do we want all of these in the Pharmacopœia? If so, are there not a great many more pills and mixtures equally entitled to the distinction of being made official? Among the preparations of our Pharmacopœia we have Griffith's Mixture, Brown Mixture, Basham's Mixture, Dewee's Carminative, Compound Cathartic Pills, Plummer's Pills, Lady Webster's Dinner Pills, Tully's Powder, Compound Pectoral Powder, Strengthening Plaster, etc., each with from three to ten ingredients. The writer does not claim to be in any degree a judge in questions of therapeutics; but it does not require a therapist to question the propriety of putting such preparations in the Pharmacopœia, any more than it takes a classical scholar to know that the O'Flannigans did not inherit their family name from some Roman patrician.

The Pharmacopœia of the United States contains in all nine hundred and ninety-seven drugs and preparations. Of the many preparations, there are at least fifty which should be expunged in the next revision, namely: Black Drop, Elixir of Vitriol, Confection of Senna, Compound Decoction of Sarsaparilla, Compound Extract of Colocynth, Compound Fluid Extract of Sarsaparilla, Black Draught, Compound Liniment of Mustard, Griffith's Mixture, Basham's Mixture, Brown Cough Mixture, Dewee's Carminative, Neutralizing Mixture (Rhubarb and Soda), Oil of Wine, Aloe Pills, Pills of Aloes and Asafetida, Italian Pills (Aloes and Iron), Lady Webster's Dinner Pills, Rufus's Pills, Plummer's Pills, Asafetida Pills, Compound Cathartic Pills, Griffith's Pills, Blancard's Pills, Antihysteric Pills, Opium Pills, Phosphorus Pills, Compound Rhubarb Pills, James's Powder, Kurella's Pectoral Powder, Compound Jalap Powder, Tully's Powder, Gregory's Powder, Hoffman's Anodyne, Gin, Bay Rum, Cologne Water, Syrup of Lactophosphate of Calcium, Syrup of the Hypophosphites with Iron, Spiced Syrup of Rhubarb, Compound Syrup of Sarsaparilla, Coxe's Hive Syrup, Syrup of Senna, Elixir Proprietatis Paracelsi, Friars' Balsam, Paregoric, Sweet Tincture of Rhubarb, and Aromatic Wine.

I would not dare to suggest the expulsion from the Pharmacopœia of such sacred preparations as: Blue Mass, Blue Ointment, Seidlitz Powder, and several other kindred relics. Indeed, I am so fearful of being hypercritical that I have not even included in the list the Ammoniac Plaster with Mercury, Pitch Plaster with Spanish Flies, Confection of Rose, Infusion of Digitalis, Soap Liniment, Aromatic Spirit of Ammonia, and the Mucilage of Sassafras Pith, which I have no doubt are still cherished by so great a number as to be invincible. It is not even proposed to abolish from the Pharmacopœia such prescriptions as the official formulas for Ointment of Carbolic Acid, Decoction of Iceland Moss, Mixture of Asafetida, and Rhubarb Pills. Of course, it would be a consummation devoutly to be wished to get rid of all preparations which are wholly superfluous, never, or very rarely, prescribed by physicians, easily prescribed extemporaneously if ever wanted, unscientific, or useless because other and better preparations of the same drugs are in the Pharmacopœia or can be devised; but that is not now proposed.

It is only proposed to drop the particular forty-eight preparations named in this paper, and to define by resolution the character, scope, and functions of the Pharmacopœia in such a way as to prevent, if possible, the introduction into that book of any such compounds hereafter.

What would be the effect of dropping them? The only effect would be the purification of the Pharmacopœia. All who may wish to continue to use these preparations can do so to their heart's content, and with as great ease as ever before. There are hundreds of preparations which are in part prescribed by physicians, and in part employed as family medicines, for which there is a sufficient popular demand to render it desirable that their composition be fixed so as to be uniform for the whole country. A "National Formulary" has therefore been compiled by the American Pharmaceutical Association and the State Pharmaceutical Associations, jointly, which is a collection of formulas for all preparations commonly used or prescribed, but not contained in the Pharmacopœia. This National Formulary is already in the hands of a greater number of druggists than the number who have the Pharmacopœia; it is recognized as the standard for all the preparations it contains; it will be periodically carefully revised, and it is clearly the proper repository for all extemporaneous preparations requiring formulas for the sake of convenience, and for all compounds of such a character that their introduction or retention in the Pharmacopœia is doubtful. Any preparation dropped from the Pharmacopœia would, of course, be immediately taken up in the National Formulary, and the art of making Black Drop, Black Draught, and Dewee's Carminative would not be lost, but these valuable panaceas would continue to be made all over the country by precisely the same formulas, as certainly as if they were still adorning the pages of the Pharmacopœia.

But, someone will say, the pharmacopœias are now much better than they formerly were in this respect, and we will, no doubt, gradually get rid of the rubbish that is still left in them; while there is no danger that any more such preparations as those described will again be made official. To this the answer is that in the last revision of the Pharmacopœia of the United States there were for the first time introduced in it Basham's Mixture, Dewee's Carminative, Kurella's Cough Powder, Tully's Powder, and other similar mixtures. They were introduced then into the National Pharmacopœia because there was a demand for them, and it was not deemed improper to make them official preparations because it was believed to be the province of the Pharmacopœia to furnish formulas for almost anything and everything in the way of medicines for which there is an established demand, and the older the preparations the greater their right to a place in that book. The writer held the same views, and voted the same way, but he has since given the subject sufficient thought to be convinced that the Pharmacopœia should no longer be abused in that manner.

I will now endeavor to state my views as to what the Pharmacopœia should be, and what it should not be.

The Pharmacopœia should be a collection of authoritative titles, definitions, and descriptions of all simple drugs and preparations commonly employed by medical practitioners, and of all new drugs and preparations which, by their ascertained physiological effects and chemical constituents, give such promise of usefulness as to warrant their extended therapeutic trial, together with standards of quality, purity, and strength; and, finally, the best methods of preparation of such simple and rational pharmaceutical preparations as may be necessary for the convenient and effective employment of the respective drugs enumerated in the book. It should be *the* authority to which we can turn to find the recognized technical name of any medicinal substance of importance; the correct and exact definition of the title belonging to it; a description sufficient to enable us by its aid to recognize that substance; tests by which we may determine the identity and purity of such medicinal substances as can be so identified; standards of strength for all medicines which can and should be made of definite, uniform strength; and scientific working formulas for all the requisite preparations of each drug according to its uses.

The Pharmacopœia should *not* contain any medicine simply because of its antiquity, nor exclude another because it is new; it should not contain any crude drug, such as a part of a plant which cannot be advantageously employed in its crude condition, unless working formulas are at the same time given for such preparations of it as render its advantageous use possible; it should not contain any ready-made prescriptions, nor any polypharmacal preparations or mixtures of several distinct, active, therapeutic agents.

The Pharmacopœia already contains, probably, nearly all drugs and preparations that would consistently find place in it in accordance with the views herein set forth. But even if as many as a hundred new drugs and preparations should be introduced in consequence of the revised ideas of the scope of the work, that would only be a decided improvement.

Our present Pharmacopœia contains not less than thirty-two roots, barks, and other crude drugs, which certainly cannot be prescribed or used in their crude state, as found in the drug market; if these drugs are worthy of a place in the Pharmacopœia, then the Pharmacopœia should, of course, also provide formulas for making fluid extracts, extracts, tinctures, or other rational pharmaceutical preparations of them. If Salol should be introduced into the National Pharmacopœia, no preparation of it would have to be introduced at the same time, for Salol is prescribed in substance; but what good would it do to put Quebracho Bark, or Coto Bark, or Strophanthus, or any other plant drug, into that book without furnishing at the same time official formulas for fluid extracts of them?

It has been the fashion in the past to strenuously oppose the introduction of any new drug, chemical, or preparation into the Pharmacopœia, because the general understanding was, that whenever any substance had a place in that work, that fact alone constituted strong evidence that it had received the general approval of the medical profession; and, *per contra*, whenever any substance failed to be voted into the Pharmacopœia, it was assumed that its use was disapproved. But it should in no wise be the function of the Pharmacopœia to approve or disapprove, affirm or deny, the use or value of any medicine. The writer believes, on the contrary, that whenever any drug has been carefully examined as to its physiological action and chemical constituents, and these examinations should strongly indicate marked therapeutic potency, that drug should unquestionably have a place in the Pharmacopœia, even if it had not been tried at all in medical practice; because, since it is evident that it will be so tried, its trial should be made under the most favorable circumstances possible—it should be rendered convenient to verify the identity of that drug, to pass intelligent judgment upon its quality, and to obtain uniform and properly made preparations of it. The fact that a new and untried drug, or a newly introduced and insufficiently tried chemical, has been placed in the Pharmacopœia, should have no significance whatever as to the real value of the substance; it should simply be understood that anyone who wants to try it or use it, can find out in the Pharmacopœia what it is, how it may be recognized, and what forms of administration or application are provided.

If these views of the true character and functions of the Pharmacopœia should be shared by a majority of the delegates to the next National Pharmacopœial Convention, and acted upon, then the Pharmacopœia of the United States would soon be made the cleanest, the most dignified, scientific, and consistent pharmacopœia in the world, and would command universal respect. And yet, so far as articles dismissed and admitted are concerned, the changes would be comparatively insignificant, and could certainly not cause any inconvenience. The size of the Pharmacopœia would remain about the same; but as to its scope and functions, it would at once assume a leading position. Such, at least, are the convictions of the writer, who bespeaks for his propositions the critical and candid judgment of the physicians and pharmacists of the United States.

MINOR LACERATIONS OF THE CERVIX.

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The importance of lacerations of the cervix uteri does not entirely depend upon their size. Many of them are either entirely overlooked, or regarded as of no importance. The object of this paper is to set forth their claims for treatment. Many women who have had one or more children complain of symptoms the cause of which seems obscure. They are about as follows: The first pregnancy goes to term without accident; delivery is normal, frequently "easy," and apparently without injury to the canal. This is followed in a few years by one or more pregnancies terminating in abortion, usually before the fourth month. These may be the only symptoms; but there is often leucorrhœa, and an increased amount of menstrual blood—unless there is anæmia, in which case the menstrual discharge is scanty or absent. The patient often has "nervous" symptoms, is fretful, and inclined to worry, and frequently loses flesh. A case with such a history may go a long time before consulting a physician, and then a correct diagnosis is frequently not made. An examination will reveal only a small laceration of the cervix, seemingly too small to cause any symptoms. Closer inspection will reveal some cicatricial tissue around the

tear, and a uterus slightly larger than normal. General treatment fails to ameliorate this condition, while treatment of the cervix produces excellent results. The following histories, taken from my case-book, belong to this class:

Case I.—Mrs. H——, aged twenty-six, had one child about five years ago. Two years ago she had an abortion at the fourth month. I first saw her at this time. The only peculiarity about this delivery was a prolapsed cord. A slight laceration of the cervix was then found, for which treatment was advised but neglected.

She was next seen one year later, when she was much run down, had lost appetite and flesh, and had had amenorrhœa for six weeks. As there is pulmonary phthisis in her immediate family, a careful examination of the chest was made, but failed to give any evidence of tubercular disease. Then examination for possible pregnancy was advised, but, at her request, was not made until one month later. There had been no morning sickness at this time, and the mammæ were negative. Medicinal treatment for increase of appetite and strength was ordered.

About the middle of May the pelvis was examined. There was much leucorrhœa, the cervix was soft and lacerated, with a small area of hard tissue around the tear; the uterus was large, about the size of a three-months' pregnancy. The chief complaint at this time was that the leucorrhœa "weakened her," and that she had suffered from nausea and vomiting, principally in the morning, for one week. Her general condition was somewhat improved. The tonics were continued, and pure liquor Monsel was applied to the cervix, followed by a tampon saturated with glycerine, to be worn about twelve hours. These applications were made once a week for the purpose of removing the hard cicatricial tissue around the tear. Her condition at once improved. The morning sickness decreased from the beginning of this treatment, and soon ceased to give any trouble. The leucorrhœa diminished, and strength and appetite increased. This treatment was continued two months only, when her symptoms had all disappeared, and she went on "to term" without further incident. When examined two days before her confinement, the cervix was found entirely free from cicatricial hardening, and with no perceptible break in its continuity. She was delivered October 31st, labor lasting about two and a half hours. The child was a medium-sized boy.

December 10th, six weeks after confinement. She feels well in every way, appetite good, and her only complaint is of weakness and of some pain in the pelvis when on her feet. Examination shows no cicatricial hardening in the cervix. A small depression is the only evidence of the old tear. A small laceration is found on the opposite side of the outer lip of the cervix. This is all the injury she received, and the applications of iron will soon heal it.

Case II.—Mrs. McK——, aged thirty-five, had one child nine years ago, and has had only one pregnancy since, when she miscarried at two and a half months. When first seen, at Demilt Dispensary, the cervix was large, and there was a small laceration, with an area of hard tissue around it. The uterus was slightly enlarged and anteflexed, and the inner os was constricted.

Sounds were passed gradually dilating the constricted internal os, and the cervix was treated with liquor Monsel and tampons. In about three months she was both surprised and gratified to find herself pregnant. She had ceased to come for about six weeks, and came back complaining of morning sickness, and that she had not menstruated in more than a month, when pregnancy was found to be the cause. A few applications of iron and tampons were made, and the morning sickness soon ceased. The treatment was continued, somewhat irregularly, until the fifth month. She was delivered at term of a well-developed boy, after a labor of about four hours. The old cicatricial tissue had all disappeared before her accouchement, and the cervix received little injury at that time.

Many histories like the above are in my case-books. These will suffice to show the benefit from local treatment.

The next case was never seen until her labor had begun. It is not an extreme one, as the consequences of neglect are often more serious.

Case III.—Mrs. S——, aged thirty-five; first seen August 16, 1889, in her seventh labor. Examination showed the os dilated only enough to admit one finger. A very decided feeling around the cervix, like a tense drawing string, was noticed. This constriction was a cicatricial band extending each way around the cervix from a small laceration. It was hard and inelastic. She was first seen at 5 P.M., and was in labor, with very strong and frequent pains almost continuously, until midnight of the next day. By this time the os was about the size of a half-dollar. The drawing-string feeling was still very pronounced. She was weak and worn out, but objected to forceps, so a flexible catheter, well sterilized, was carefully introduced and passed to the fundus uteri, only the end protruding through the os into the vagina.

This produced more intense pains, which lasted for about an hour, when all pains began to die out and the weakness became pronounced. She now asked for assistance. The forceps were introduced with some difficulty, and a male child, not larger than usual, was delivered with their aid in about half an hour. The cervix was much torn. The scar tissue prevented a dilatation large enough to allow the head to pass. The cervix had to be torn, and the uterine muscle was not able to do this with thirty hours of hard labor. If the old laceration had been deeper, it would have interfered less with the passage of the head.

My experience, in cases similar to the above, has shown that appropriate treatment of the cervix will soften it and renew its elasticity sufficiently to allow a normal delivery to occur without material injury. This result is possible even when treatment is begun after gestation has advanced several months.

The following case is introduced to show the beneficial effect of appropriate treatment on the *nervous* symptoms that frequently accompany these minor lacerations of the cervix:

Case IV.—Mrs. S——, aged thirty-six, a widow, had one child six years ago, which was her only pregnancy. For the past eight months she has noticed a loss of a greater amount of blood than usual at each menstrual epoch, and has become weak, easily tired, very nervous, has lost appetite, and has much dysmenorrhœa and leucorrhœa.

Treatment, for a month, was directed to the alimentary canal and the use of tonics, before a pelvic examination was consented to. She continued to get worse and the menorrhagia became very distressing. She was irritable and despondent, a change from her normal happy disposition. A vaginal examination was urged and now allowed. The uterus was found anteflexed and slightly enlarged, the cervix was very large and contained nodules of hard tissue, and its contour was incomplete at one place. She was given a tonic laxative and had iron applied to the cervix, and packing of the vagina with cotton-glycerine tampons. These applications were made twice a week during the three weeks between each menstrual period. Now, after two months' treatment, she is stronger, has less nervous symptoms, no dysmenorrhœa, loses a normal amount of blood, has little leucorrhœa, and, as she says, "don't worry any more." The cervix is much smaller and softer, and the uterus is of normal depth.

I could add several similar cases, but these are sufficiently typical to illustrate the need of a more careful watch for these apparently insignificant breaks of the cervical continuity, and their need of careful treatment. The alleviation of the nervous symptoms in Case IV. is especially to be noted. The inclination to worry and be fretted by trifles is frequently a prominent symptom. The relief from vomiting, as shown in Cases I. and II., is also worthy of notice, as this symptom is often very difficult

to control by drugs. Counter-irritation is a safer method than the stretching of the cervix, that has been frequently recommended for it. It is certainly worthy a trial; inexperience or want of skill can do little injury with it.

The iron lessens the cervical tension and the irritability of the reflex nervous centres, while the tampon supports, for a time, the enlarging uterus, and gives the ligament rest, and the glycerine lessens the peri-uterine congestion.

It is also worthy of note that each of these two cases (I. and II.) miscarried with the first pregnancy after that which had caused the injury of the cervix; but when properly treated, each was carried in safety past the time of previous abortion, usually so dangerous, and enabled to complete her period of gestation. While a deep laceration makes the entrance to the uterus more patulous, these slight injuries do not, and the unaided efforts at their repair destroy the elasticity of the cervix. The treatment above outlined removes this hard tissue and restores its normal flexibility, the absence of which is the main source of danger.

I may add, in closing, that so-called solvents will not always be found sufficient to remove these indurations and effect a closure of the torn cervix. In such cases it is necessary to dig out the hard tissue and sew up the laceration; but they are without the scope of the present paper.

355 West Fourteenth Street.

INCOMPLETE LUXATIONS OF THE METATARSO-PHALANGEAL ARTICULATIONS.

By CHARLES E. WOODRUFF, M.D.,

ASSISTANT SURGEON, UNITED STATES ARMY.

There are several painful affections of the metatarso-phalangeal articulations due to incomplete luxations of the bones. Dr. C. L. Dana has shown (The Medical Record, July 25, 1885) that some of these cases have been described, as early as 1833, in France by Velpeau, subsequently by various other French writers, and in this country by Dr. S. Weir Mitchell in 1872, and Dr. Morton, of Philadelphia, in 1876. The subject seems to have been taken up as a new one, in an article by Dr. Auguste Pollosson, of Lyons, referred to by the London *Lancet* (March 2, 1889), in which one form of luxation is called "metatarsalgia." Much correspondence followed in the *Lancet* for March 16th, and April 6th and 13th, though it appears that attention to these painful affections is not new in England; for reference is made (*Lancet*, April 6th) to the treatment pursued in these cases by Dr. Reeves ten years before.

These luxations, though seemingly trivial, cause much distress and inconvenience, and at times the pain becomes so severe as to be almost unbearable, as I can testify from personal experience. A careful perusal of the recorded cases at my disposal shows that they are not similar by any means, and none of them correspond to the three other cases I have seen. The cases lately referred to in the *Lancet*, and called "metatarsalgia," are probably exactly the same as the more severe cases of "policeman's disease" and "tarsalgia" described by Velpeau and others, and Dr. Mitchell's cases, referred to by Dr. Dana, and probably also some of Dr. Morton's cases. In all these, from prolonged standing or walking, injuries or falls on the feet, and in people having relaxed ligaments, the metatarsal arch gives way from stretching of the transverse ligaments, allowing the third metatarsal bone to drop to the level of the others. It occurs therefore among policemen, dentists, shopkeepers, and others who are on their feet during much of the day. The disturbance of the positions of the parts causes pressure on the nerves, particularly the small digital branches of the plantar nerves, running along the sides of the heads of the metatarsal bones. This explanation, given by various writers, is undoubtedly the true one, from the relief afforded by preserving the arch of the metatarsus transversely, by a pad or some inflexible material used as a false sole to the shoe and fashioned to fit the arch. Exercises, such as standing on tiptoe, which strengthen the transverse ligaments, have also cured a case (Dr. Edward Roughton: *Lancet*, March 16th).

My own cases are entirely different, occurring in people not accustomed to much standing or walking, not having relaxed ligaments nor flattened metatarsal arches, having no history of injuries, and not benefited, but, on the contrary, made worse, by exercises like standing on tiptoe. They are so easily relieved that they deserve mention. They are all due to a very slight displacement upward of the proximal end of the first phalanx of the third or fourth toe, generally the third, and caused by forced dorsal extension of the toes on the metatarsus. In some cases the luxation is brought on by merely assuming a partially kneeling attitude, with the sole of one foot upon the floor, and the other supported on the extended toes, the person almost sitting on the latter foot, thereby resting his whole weight on the extended toes. In whatever manner forced extension is made, the phalanx slides up on the head of

Fig. 1.

its metatarsal bone, as seen in Fig. 1, and when flexion takes place it does not slide back but rotates until it assumes a position as seen in Fig. 2.

Fig. 2.

The first phalanx of the second, third, or fourth toe, having no muscular attachments except the feeble interossei, has no aid from muscular contraction to help keep it in position. I do not know why the middle toe should be the one nearly always affected, unless it is due to the fact that when the weight of the body is thrown on the toes, dorsally extended, the third metatarsal, being the key of the arch, is brought near the floor, and causes the corresponding toe to be more forcibly flexed and receive more of the weight than the others. A slight flattening or hollowing out of the end of the metatarsal would materially aid in preventing the return of the phalanx. Habit undoubtedly is a great factor in perpetuating the trouble, and after a few attacks the dislocation is produced by very trifling motions of the toes.

It is this very slight degree of luxation which I have often made out in my own case, and which is the cause of all the agonizing pain which soon appears. The pain is of a burning character, and located in and under the joint. Should the luxation remain unreduced, the burning becomes steadily more and more severe, and finally involves the whole anterior part of the foot. Yet the pain will cease as if by magic when the luxation is reduced.

Extension and counter-extension applied with force enough to produce the familiar "snap," or "crack," will invariably, in my own case, reduce the luxation and stop the pain; and in the other cases in which I have advised it, the shoe can be worn at once and with comfort. Grasping the foot in the hand, or pressing it between the hands, on sole and dorsum, will ease the pain; but the bone is not reduced as by extension and counter-extension, and the shoe cannot be worn comfortably until the toe works itself back into place, which may be hours or days.

Of course, the only prophylactic is to be careful to prevent any forced extension of the toes of the affected foot. A great aid to this is to wear shoes with soles having but little flexibility. Three of my cases were never troubled when they wore thick soled-shoes, the fourth did not try it. All positions, attitudes, or movements which cause forced dorsal extension of the toes must be carefully avoided.

The whole affection appears at first sight to be so trivial as to merit but little or no attention, but in the cases I have seen it has at times been a very serious matter to the patient. In one case the gentleman once caused the luxation just before seating himself at a banquet, and it is needless to remark that he found no pleasure at all in his joyous surroundings. In another case, a lady imagined that the pain was caused by forcible flexion of the toes, and tried repeatedly to counteract the trouble by forced dorsal extension, only to cause more pain. By keeping the toes in line with her foot, preventing either flexion or extension, she had no return of her trouble, until she neglected the precautions.

The cases are so nearly alike that a description of them is unnecessary.

Besides these two classes of luxation there are other cases, reported by Dr. Morton, which appear to be entirely different, being in the fourth metatarso-phalangeal joint, and probably due to subluxations of the metatarsals upon one another, and caused by blows upon the instep, severe falls on the feet, and other accidents. Some of his published cases were cured only by excision of the painful joint.

There is really no need for a name for these pains, any more than there is need for a name for the pain due to dislocation of the shoulder or of the hip. If we call it "metatarsalgia," we should invent a name for the pain in each form of luxation, for we are just as liable to have "metatarsalgia" in the hand as in the foot, which, as mentioned by a correspondent of the *Lancet* (March 16th), is about equivalent to having "toothache in the toe."

Since the above has been written, I have learned of still another form of subluxation, but this time in the *tarsal joints*. The patient, a lady, states that by certain motions of the foot, combined with flexion of the ankle-joint, there would occur a severe burning pain located in the tarsus at its inner side. The pain would become worse, and there was a sensation as though "a red-hot iron had been thrust into my foot," to use her own words. It was unbearable pain, and she found by experiment that she could stop it by manipulating the foot and stamping on the ground. The pain would sometimes occur while she was in bed asleep, from her unconscious movements. She finally learned by experience what movements caused the pain. By the exercise of great care she avoided the movements, until she was able to do so involuntarily. For several years she has been free from her trouble. This case is undoubtedly one of subluxation of one of the tarsal bones, probably the scaphoid. The pain, its mode of occurrence, and the mode of obtaining relief, are so similar to the cases described above that the case becomes of interest when considered with the others.

Perhaps many other cases of obscure and burning pains in the foot may be explained on the theory of subluxations of some of the many bones forming the complex articulations of this highly specialized organ. Indeed, it is not unlikely that the classical pain which many people in their youthful days have suffered, to gratify the vanity of observing the vast proportions of their feet compressed into smaller volume, may be a pain differing in no respects in origin from the cases already considered, the severe compression of the foot having caused slight displacements which are spontaneously reduced upon removal of the offending boot.

Pneumonia is still very prevalent in this city, and has a marked mortality.

THE ENFORCEMENT OF THE LAW FOR MUNICIPAL LODGING-HOUSES IN NEW YORK CITY.[1]

By HENRY E. CRAMPTON, M.D.,
NEW YORK.

The law whose enforcement we advocate to-night was passed June 2, 1886.

It authorizes the Commissioners of Charities and Correction to hire or purchase the necessary buildings for male night-lodgers, specifies the manner in which the funds for their maintenance shall be obtained from the city treasury, contains the essential clauses concerning the compulsory bath and work, and gives all needed powers.

Repeated efforts have been made to induce the Commissioners to move in this matter, but without success.

This is pre-eminently a sanitary question, and as such comes before us this evening.

The law is similar to the one in force in Boston, where it has worked well for nine years. There an applicant for a night's lodging receives at any police station a card of admission to a Wayfarer's Lodge. Here he receives a warm bath and a comfortable bed, and in the morning, after sawing a certain amount of wood or doing what other work may be required of him, has a hearty breakfast and leaves the lodge, equipped, physically at least, for the weary tramp for employment, or for his distant home.

Statistics show that this system has worked well in Philadelphia, Baltimore, Indianapolis, and Washington.

In New York City we treat the men and women who are too poor to pay for even the cheapest night's lodging very differently.

These men and women gather about our station-houses as night comes on; if it is stormy they come early.

You may see them any night lurking about in alleys or door-ways, or quarrelling for places in the line until six o'clock, when they are admitted, and after their name, age, and nativity are registered they are directed to the sleeping-room. This is a bare, stone-floored and brick-walled apartment, usually over the prison cells.

Here they range themselves, in their rags and vermin, upon narrow boards, raised about a foot from the floor by an iron frame. The women have a separate room similarly furnished. When these are filled, further applicants are turned away. A large stove with a generous fire supplies warmth, but assists in devitalizing the air; it permits, however, the use of the scanty clothing for a pillow.

The bacteria that swarm in the air, let us say at midnight, would delight the most confirmed bacteriologist. The foul odor is indescribable. In the morning early all are turned into the streets, as the hose must be freely used to prepare the chambers for the evening guests. The number of lodgings of this sort given in 1887 was 128,635. In 1888 the number had increased by 22,000. The total was 150,812. About forty-four per cent. were women.

It is interesting to note here that as a profession we have been true to ourselves in protesting against this vile system.

In 1867 the Board of Police Surgeons presented a report to the Department, from which I read the following extract:

"The Board of Surgeons is of the opinion that it would be recreant to its duty did it not strenuously urge upon the Board of Police the propriety, the economy, nay the absolute necessity, of discontinuing the practice of using station-houses as lodging-houses for vagrants. The practice is fraught with numerous evils; the huddling together like cattle of a large number of drunken, dirty, and ofttimes diseased wretches, contaminates the air breathed by the patrolmen in the same building. It engenders typhoid and other idio-miasmatic diseases, and is a prolific and traceable source of sickness among the officers and men.

[1] Read before the Section on Public Health, New York Academy of Medicine, January 3, 1890.

Besides this, the passing in and out of these lodgers frequently prevents the men from obtaining the necessary sleep, without which it is impossible that they should well and efficiently perform the duties required of them while on post. Some systematic, radical, and comprehensive change in this matter is urgently needed, such as the erection of lodging-houses for vagrants entirely disconnected from the station-houses.

"Whether the charitable providing of lodgings for the homeless and destitute be any portion of the duty of the Board of Police, and if so, what propriety there is in making it part of its duty, and whether this subject does not more naturally and more properly devolve upon the Department of Public Charities, are questions, though interesting in themselves, yet are not perhaps strictly within the scope of a medical report. It is, however, eminently proper, as a medical and sanitary question, to show that, to whichever department this matter more rightfully and properly belongs, lodging for vagrants should never be allowed in any portion of a station-house, for the reasons above stated."

Attention was first drawn to the formation of the Night Refuge Association in 1877, mainly through the efforts of the State Charities Aid Association, and to the repeated and combined efforts of various charitable associations, which finally resulted in the adoption by the legislature of the Act in question.

Secondly, this question is one which concerns the health of our police force.

In the annual report of the department for 1888, we find reported 311 cases of fever, nearly one-half of which are classed as malarial, and 334 cases of diarrhœal affections, including dysentery; 164 besides are set down under gastric derangement. It is certainly impossible to say how many of these and other cases of illness were caused by contact or proximity of sleeping apartments to those occupied by the night-lodgers, but that the presence of these sources of zymotic contagion is an important factor I have not the slightest doubt. We require of the police protection from the vicious and degraded, but we ought not to ask them to sleep with them, if we can help it. In some of the station-houses the sleeping-rooms of the policemen are over or near the night-lodgers' shelter.

We close with a summary of the reasons why the Act should be enforced.

1st. As a sanitary measure. "The health of our citizens, especially the police force, is endangered by a continuance of the present system."

2d. It is feasible. The success of a similar law in other cities is proof.

3d. It is humane. Our present method is inhuman and demoralizing.

4th. It is an economic measure. The compulsory bath and work will deter the lazy from applying, and assist in ridding our city of tramps. This result has been obtained elsewhere.

5th. It is necessary, as shown by the increase in the number of lodgings given—in 1887, 128,635; in 1888, 150,812.

NOTE.—The paper was discussed by Drs. R. H. Derby and Cyrus Edson, and (by invitation) Rev. Drs. W. R. Huntington and F. H. Warling, and Messrs. I. A. McKim and H. B. Turner, of the State Charities Aid Association, all of whom favored the enforcement of the Act.

Electro-therapeutic Quackery.—The manufacture and sale of electric belts, brushes, shoes, pads, etc., has reached such proportions in England that an effort is being made, in the interest of an ignorant and deluded public, to restrict, if it is impossible to repress, the traffic in such fraudulent appliances. A man who sold an "electropathic belt," which was warranted to cure sciatica, lumbago, Bright's disease, and a host of other ailments, has recently been arrested and fined for obtaining money under false pretences.

A CASE OF RECURRING PHLEBITIS.[1]

By A. A. SMITH, M.D.,
NEW YORK.

PHLEBITIS is not an affection of frequent occurrence. When it does occur, it is usually not difficult to discover a cause. Although in some cases it is described as of idiopathic origin, strictly speaking, one can say of such cases probably the cause has not been discovered. I have designated the case whose history I will read as recurring phlebitis. The patient has had four attacks, and in none of the attacks has it been possible to discover a satisfactory cause. Certainly none of the ordinarily recognized causes was discovered.

The patient, an Englishman, was engaged in business in London and New York. While returning to London from New York, on the steamer, within two days of Liverpool, he was seized, while walking on deck, with a severe chill accompanied by decided pain in the right leg. The pain was on the inner surface, extending from a point mid-way from the groin to the knee, over the track of the saphenous vein. The next morning there was swelling of the leg and foot and a feeling of stiffness and considerable pain in the leg above the knee. Every effort at walking was attended by pain enough to cause him to keep quiet. On the arrival of the steamer he went at once to London, consulted his physician, who pronounced it phlebitis and advised the usual treatment—rest, elevation of the leg, and warmth, etc. This was in October, 1879. He recovered from this attack in three weeks and resumed his business. On Christmas Day he was seized at the dinner-table with pain in the left leg, in about the same situation and with the same characteristics, except that it was more severe, and the leg began to swell within an hour. The following day it was swollen to twice its normal size. He was again treated in the usual way. In about three weeks all acute symptoms had disappeared. The swelling in the leg subsided somewhat, but, as is usual in such cases, it has never resumed its natural size. The first day he began to move about after the second attack he developed a pneumonia, which was probably due to a thrombosis. He was very ill for six weeks, but gradually recovered from it, and by June, 1880, had recovered his usual health, except the swelling in the left leg, and a moderate degree of tenderness over the course of the saphenous vein above the knee.

I saw him first in October, 1885, in this city. He then was suffering from an attack of acute phlebitis affecting the long saphenous on the left side, both above and below the knee. The attack was ushered in by a mild chill, and occurred after a period of three days of great mental anxiety and physical exertion in connection with his business. He was at that time forty-six years old and had never had a day's illness up to the time of his first attack. In fact, he considered himself a man of unusual physical vigor up to that time. He had always been a rather generous liver, both as to eating and drinking. He had for twenty years been an inveterate smoker. His attack yielded in a short time under the treatment ordinarily pursued. As this was the third attack, I was much interested in discovering, if possible, the etiology. He had been, up to his first attack, a man of unusual physical vigor, had never had syphilis, nor, by his own testimony, gout. He certainly had had no disease causing depression of vitality and had not received an injury. His urine showed only a few urates. Just after this attack he had pain and swelling in his tendo Achillis and its attachment, which yielded quite readily to White's anti-gout pill and iodide of potassium.

He returned to England a few weeks later. I did not see him again until September this year. He had remained well most of the time. On two or three occasions he thought he was threatened with an attack of phlebitis. On such occasions he would take the anti-gout pills and the iodide for a few days. He thinks this warded off

[1] Read before the Practitioners' Society, November, 1889.

the attacks. At all events he has had no attack until the one for which I visited him in September. He had developed the attack after unusual mental exertion and exposure on a sleeping-car. It came on, as two previous attacks had done, with a slight chill. This time it affected first the saphenous below the knee, gradually extending up above the knee, the portion above the knee becoming affected after it had partially subsided below. It affected the superficial epigastric vein in the wall of the abdomen a few inches above the groin. Since recovery from the acute symptoms of this last attack I have kept him steadily taking iodide, and about once a week an anti-gout pill. In view of the fact of the urates being abundant in his urine during the most of the time of the attack, I have endeavored to regulate his diet too. He says (in the early part of November) he has not been so free from stiffness and pain in his left leg in years as he now is.

The case presents some points of interest: The frequent recurrence, the lack of an easily recognized cause, the first attack occurring in a man of excellent physical vigor; no injury, no disease in tissues about the veins, no blood-poisoning. In most cases of gouty phlebitis it has occurred in cases in which the manifestations of gout were unmistakable. Can this case be included among the cases of so-called gouty phlebitis?

ON THE LEGITIMACY OF THE EXTENSIVE INTRANASAL SURGERY OF THE PRESENT DAY.

By J. M. W. KITCHEN, M.D.,
NEW YORK.

Intranasal therapeutics has experienced a fashionable change during the past few years. The treatment of chronic rhinitis by means of medicated sprays has been largely abandoned as a curative measure, and has even been extensively denounced as being of no benefit to the patient. In this instance the reaction has gone to an unjust extreme, for a great deal of good in the way of alleviation, and even of cure in exceptional cases, can be accomplished by a skilful use of very simple remedies in the form of sprays. But surgical procedures offer such prominent advantages, in producing quick and easily appreciable results, that the specialists have adopted the cautery, saw, drill, etc., with enthusiasm. Opinions differ widely as to the efficacy of this style of treatment. There is a wide difference between the views of the enthusiastic specialist who holds that nasal catarrh is caused by stenosis and can be cured by operation, and those of the pessimistic general practitioner who considers the malady a totally incurable one. The truth lies between these extremes. It is presumed that the advertising proprietors or the sure catarrh-cures still find enough patronage to keep the wolf from their doors, and certain it is that the hay-fever cases flock in crowds each year to exempt regions; yet there are hundreds of practitioners whose time is not by any means fully occupied, who stand ready to attempt cure by operation for a reasonable consideration. It would seem that this state of affairs indicates scepticism somewhere. I am free to admit that there is a reasonable basis for this distrust. Having had a fair opportunity, through practice and observation of the results by a reasonable lapse of time, to come to a judgment as to the merits of this mode of treatment, I herewith submit my conclusions on the subject.

There are a few cases of intranasal catarrh that can be radically cured by intranasal operation. These are cases in which great abnormalities of structure are undoubtedly prominent, and may be the only important cause of the trouble; but these cases represent a small section of the great mass of sufferers. It is true that, other things being equal, the individual who has a perfectly straight septum, and intranasal lumen of an approximately correct calibre, will be less liable to nasal catarrh than persons less favored; but, as a matter of fact, no person is so favored, and slight or even moderate deviations from the normal have only a small causative effect. The conditions at work in causing catarrhal affections in the nose are widespread and numerous, and in large measure are beyond the control of either the doctor or the patient. I do not remember to have operated on any nose but what I have accomplished more good than harm; but I have operated on more cases in the belief that I was giving curative treatment than I expect to operate on in the future holding that theory. Operations in the nose are not an unmixed blessing, especially those on the septum. The intranasal cicatricial dry patch is a decided nuisance, and even in cases of marked malformation it is sometimes a nice question to decide which is the greater evil, the disease or the result of the treatment. Almost all the good results of operation in the nose are in the line of alleviation, and any claims of an extensive nature for curative effect will in the very near future, in my opinion, indicate ignorance or worse in the practitioner. While such claims would not be legitimate, there is still quite a large field for the legitimate use of intranasal surgery in the alleviative treatment of nasal affections. It is a comfortable and healthful thing for an individual to have free nasal respiration and complete nasal drainage. There are certain effects of disease which, if not removed or corrected, will surely lead to greater evils. A certain amount of cicatricial tissue in many an individual's nasal cavities, if judiciously created, would prove a blessing to those so endowed. The cicatrices mechanically bind down the tissues, preventing nasal occlusion by their engorgement; destroy some of the too active nerve-terminals, and by interruption of the blood-current reduce the nervous irritability of neighboring parts. All this and more is good, legitimate surgery, and there are really no great grounds for denouncing the intranasal surgery of the day. Of course, there may be cases in which more harm has been done to the patient than good; but the reverse I believe has usually been the case. The only objection of importance that can be justly urged is that in this instance practice has forerun theory. The theory has been largely wrong; but the practice has been reasonably good. If there has been a fault, it has been born of ignorance. It may be of interest to some coming rhinologist to state that, while the field for *philanthropic* intra-nasal surgery is immense, the number of persons is very limited who will submit to operative procedures and then pay in hard cash for the infliction. Advising an operation in a charity patient inspires immediate confidence. The same advice to a possible pay patient in most cases calls out an ocular expression that says almost as plain as words, "Do I look so green a bird as all that?" Further than that, there are relatively fewer cases to be found among the financially well-to-do classes, who enjoy better hygiene and advantages of all kinds. In my opinion, the persons who will in the future be the most successful in *curing* intranasal affections, will be hygienic teachers, and the promoters of sanitaria in locations favored with superior climatic and other advantages.

Treatment of Diphtheria.—Dr. H. L. Manchester, of Pawlet, Vt., writes that he has been accustomed for some time to make use of the vapor of bromine in the treatment of diphtheria. His method is to put some solution of bromine in a shallow dish on a high shelf, since the vapor is heavy, and thus keep it constantly in the sick-room. Since employing this he has had much better success with his cases of diphtheria than he had before. He also brushes the throat with a soft camel's-hair brush dipped in tincture of the chloride of iron, and gives tincture of digitalis internally. Phenacetin and antifebrin are the agents which he prefers for reducing fever and quieting restlessness. Dr. Manchester has never seen any reference to the use of bromine as a disinfectant in the treatment of diphtheria, and if it does the work that he thinks it does it deserves, he says, to be more widely known.

Progress of Medical Science.

The Blood in Phthisis and Cancer.—Dr. G. Neubert has examined the blood in twenty-four cases of phthisis at various stages, and found that in nine the number of corpuscles was normal, in three it was above, and in twelve more or less below the average (*The Lancet*). On the whole, there was an average diminution of about eight per cent. The increase noted in three cases might perhaps he attributed to profuse night-sweats. The hæmoglobin showed a reduction to seventy-three per cent. in the females and eighty-five per cent. in the males. There was no notable change in the number of leucocytes, but it was observed that multi-enucleated forms predominated. In five cases of cancer of the œsophagus and four of cancer of the stomach there was an invariable diminution in the number of red corpuscles, and also notably of hæmoglobin. It is inferred that the hæmoglobin, being the more "sensitive" element of red corpuscles, is more profoundly affected in cachexia than the stroma of the corpuscles. A distinction was made between the anæmic and marasmic types of cancer, the latter exhibiting an average reduction of thirteen per cent. of corpuscles, while the hæmoglobin fell to eighty-seven per cent. of the normal; the former showing a corpuscular reduction of thirty-five per cent.; while the hæmoglobin was as much as seventy per cent.

Linear Proctotomy.—At a recent meeting of the Academy of Medicine in Ireland (*The Lancet*), Dr. Ball defined the operation of linear proctotomy as the making an incision through the anus and rectum directly backward to the coccyx and hollow of the sacrum; the following being the indications for its performance: 1. For the cure of non-malignant strictures of the rectum, in which gradual dilatation by means of bougies or other instruments is either impracticable or inefficient. 2. For the removal of growths situated high up in the bowel or in the hollow of the sacrum. 3. As a palliative measure instead of colotomy in advanced malignant disease. 4. As a preliminary step to amputation of the rectum. Dr. Ball brought forward two cases illustrating the first class: Case 1. Male, twenty-three years of age, five years' syphilitic history. Considerable ulceration of lower part of rectum, with tight stricture above. Bougies gave rise to great irritation, so linear proctotomy was performed. Relief to obstruction was immediate, and the ulceration healed without further difficulty. There has been no recurrence of the stricture (twenty months after operation), and the amount of incontinence is extremely slight. Case 2. Female, forty-seven years of age, for five years suffered from a morphœa-like condition, which produced puckered subcutaneous cicatrices over both breasts, heart, and abdomen. She also had some ascites. The vagina was contracted, the uterus fixed, and a tight, smooth stricture of the rectum existed. This became so tight that her life was threatened from intestinal obstruction. The stricture, which would only admit about a No. 9 catheter, was divided, and all symptoms of obstruction obviated. Six months subsequently she developed stricture of the œsophagus, which proved fatal, no recurrence of the rectal trouble having taken place. The pathology of this case was doubtful, apparently not carcinoma; but as she died down in the country, no necropsy could be obtained. The following are examples of the removal of neoplasms by means of linear proctotomy: Case 3. Male, sixty-three years of age, rectum obstructed by soft tumor filling hollow of sacrum. An attempt to remove the mass by linear proctotomy was so far successful that the tumor, which proved to be a lympho-sarcoma, was completely extirpated; but, unfortunately, the patient died from septic peritonitis. Case 4. Male, twenty-six years of age, much worn down by the continuance of dysenteric-like discharge from rectum. A soft sessile growth could be felt at the highest limit accessible by digital examination, but, with the aid of linear proctotomy, it could be completely controlled. It was extremely vascular, and, in the patient's exhausted condition, destruction by Pacquelin cautery was deemed safer than extirpation. The patient recovered very perfectly, completely regaining his strength, and there has been, so far (eighteen months), no recurrence and no inconvenience from incontinence. Class 3. Dr. Ball did not consider that linear proctotomy could be favorably compared with colotomy for the relief of obstruction due to malignant disease. And in the fourth class, the consensus of surgical opinion was certainly in favor of adopting linear proctotomy as a preliminary to amputation of the rectum, and Dr. Ball had hitherto invariably practised it.

The "Normal" Diet.—According to Dr. G. Munro Smith, the daily destructive metabolism, which is the great criterion of work done, does not vary much among different occupations. Premising that he does not consider moderate over-eating injurious, he finds that very many men eat considerably more than the most liberal tables: it is not an uncommon thing for an average-sized man on very moderate work to eat 25 or 27 ounces of chemically dry food a day. Women eat much less than men, after making allowances for differences in weight and work. Where a man eats 19 ounces, a woman of the same weight and of active habits eats only 14 or 15 ounces. On a diet from which all meat is excluded he has found that 12 to 13 ounces *per diem* will comfortably feed a hard-working man. A moderate amount of stimulants appears to increase the average; moderately free drinking diminishes it. A diet consisting of one part of nitrogenous to seven or eight non-nitrogenous is a good combination; it is greatly exceeded on the nitrogenous side by the majority of men and women, especially the former. A diet of 12 to 14 ounces of chemically dry food, digestible, with the ingredients in proper proportion, is sufficient to keep in good health an average-sized man on moderate work. The majority of people (in England) eat literally twice as much as this.—*Bristol Medico-Chirurgical Journal.*

Tolerance of Operations on the Liver.—Professor Ponfick, of Breslau, has been for a number of years engaged in making experiments in regard to the relation between the liver and certain anomalies in the formation of blood. In the course of these investigations he has made some striking discoveries, which, although not directly connected with the object of his investigations, are yet of great importance. One of the most curious results of his experiments has been the discovery that the animal functions may be conducted without serious disturbance even after the loss of a very large portion of so important an organ as the liver (*The Medical and Surgical Reporter*, October 12, 1889). In some cases, operating with strict antisepsis, he succeeded in removing as much as three-fourths of the liver, either at several sittings, or in one single operation; and the animals upon which he experimented did not lose their lives, nor seem to be seriously disturbed in their health. In hundreds of experiments, in which he removed sometimes one lobe and sometimes another, the animals remained, in a considerable number of cases, perfectly well for months, and even for as long as a year. Clinical experience has already taught us that the whole of the liver is not absolutely essential to health, because large portions of this organ have been practically destroyed—as in the case of echinococcus and profound fatty infiltration—without any disturbance of the general functions of the body. But this, as Ponfick says, is hardly to be compared with the sudden and immediate removal of large portions of an organ which is supposed to be so important to health. The explanation of this curious fact seems to be that the liver has a wonderful power of reproduction. Ponfick found that, within a few days after the removal of portions of the liver, the work of its reproduction began, and that it proceeded with great rapidity to completion. In certain cases, he found that within a period of a few weeks as

much was reproduced as had been removed; that is, twice as much as had been left behind. These investigations have an interest altogether outside of that which is absolutely scientific, because it cannot fail to influence the development of abdominal surgery, if it is understood that large portions of the liver may be removed without serious danger to life.

Mitral Stenosis following Fracture of the Sternum.—Dr. Ritter relates the following case from among the out-patients of Professor Brieger (*The Practitioner*). A man thirty-four years of age, and always healthy, sustained in February a fracture of the sternum. He had violent pains in the breast, and hæmoptysis. The latter symptom persisted five days, while breathlessness, which was also present, did not disappear for four weeks. There was no increase of temperature or pulse. A careful examination at the end of five weeks revealed nothing in the heart and lungs, and the patient was allowed to leave the hospital. In July he appeared in the out-patient room. Since the accident he had suffered from nervousness, and was easily excited, while at times he had violent præcordial anxiety, constricting pain in the region of the heart, and severe palpitation. The sternum showed at the fourth rib a marked displacement of such a form that the upper end of the body was bent inward and formed a sharp angle with the lower part; the ensiform process was pushed to the right, and lay under the ribs for the greater part. In the cardiac region was a peculiar wave-like movement with a distinct thrill. The heart extended above to the upper edge of the fifth rib, to the left it reached to the parasternal line, to the right a finger's breadth over the right border of the sternum, and below to the seventh rib. A presystolic bruit was distinct, and the pulmonary second sound accentuated. The pulse was occasionally irregular, the wave small, and the tension low. Here there was a history of the heart being perfectly sound after the accident, while the palpitation of which he complained might be due to shock. The hitherto published cases of heart failure from causes similar to this have been caused by direct force which affected heart and bone together. One similar case has been published by Rose, of a cowherd who was gored by an ox in the region of the heart and sustained a fracture of the rib which healed in fourteen days. A year later he returned with well-marked heart failure and extreme dropsy, and he died soon after.

The Surgical Treatment of Perforation of the Stomach and Intestines following Ulceration.—Dr. Steinthal gives as indications for the performance of the operation of laparotomy, the sudden occurrence of severe pain referable to the abdominal region, accompanied by greater or less collapse, in individuals in whom a history pointing to ambulatory typhoid, typhlitis, or perityphlitis is obtained, and particularly if these symptoms have followed an act of vomiting or other powerful exertion or straining effort. To these are added the objective signs of peritonitis, which develop much more quickly after a perforation than in cases of obstruction or occlusion of the bowel, and if free gas is found in the abdominal cavity (peritoneal meteorism) the diagnosis between perforation and acute diffuse peritonitis is comparatively easy. The latter is distinguished by the absence of every motion of the intestinal canal usually recognized through the abdominal walls by the sight, feeling, and hearing, and likewise of the hepatic dulness, and when a doughy condition of the epigastrium with a well-marked and generally high percussion note is distinguished. Czerny attempted to lay down rules in guiding the surgeon to a conclusion regarding the location of a perforation. Odorless gas with slight septic qualities, upon opening the peritonæum, indicates stomach perforation. Steinthal adds to this, rapid disappearance of the line of dulness, and almost constant absence of vomiting. In cases of perforation of the ileum, gas of septic odor and qualities appears; in perforation of the jejunum, slight exit of the intestinal contents and gradual appearance of the symptoms occur. Up to the present time twenty-three cases of laparotomy for ulcerative perforation have been reported, of which number ten have recovered. In the fatal cases it has not been found that the operation itself has lessened the patient's chances of recovery, or that circumscribed has been connected with general peritonitis, as has been until now the generally expressed fear on the part of medical practitioners. As to the technique of the operation, in cases of circumscribed peritonitis following perforation near the surface, the peritoneal contents are evacuated by incision; and if the place of perforation is accessible, the same should be at once closed by sutures, avoiding as much as possible further manipulation, and leaving further procedure for the future. If the perforation is not localized and the peritonitis general, the peritoneal cavity should be freely opened, in order to get a clear view. If the perforation be supposed to be in the cæcum, a lateral incision is recommended; in perforation of the stomach and duodenum, an incision in the linea alba from the umbilicus upward, with perhaps the addition of a cross-incision; in the case of the jejunum and ileum, a long incision in the median line. The peritonæum should be opened at first by a small incision, in order to confirm or amend the diagnosis by the escaping gas. It may happen that the bowel-loops, despite the perforation, are still much distended, and their return into the abdominal cavity is attended with some difficulty. We succeed rather easily in overcoming this difficulty by Kümmel's method, with antiseptic compresses. He recommends, after the manner of Mikulicz, flooding the abdominal cavity, after closing the perforation, with a one-sixth of one per cent. solution of salicylic acid, and drying the loops of intestine and all available parts with tupfer wrung out of 1–200 sublimate solution. Drainage is recommended by means of iodoform wicking, after Gersuny's plan.—*The Brooklyn Medical Journal.*

Plastic Bronchitis.—Dr. Samuel West has continued the work commenced some years ago by Lebert, and has collected together all the recorded cases of plastic bronchitis which have occurred since the year 1869. Fifty-two cases have been reported during the twenty years, and the result of a critical examination of these is here given. The majority of the cases being of a recurrent type, no attempt has been made to follow Lebert in his classification of plastic bronchitis into acute and chronic groups. The only case seen by the author was that of an otherwise healthy woman of forty, who for the previous two years had been subject to regularly recurring attacks of extreme dyspnœa, followed by free expectoration in which casts were discovered. These were small, grayish white, and much ramified. The largest were not thicker than a goose-quill, many being much smaller. The attacks came on at 2 A.M., and lasted from two to three hours. No special symptoms or physical signs were observed either during or between the attacks. No relief was afforded by treatment. Examination of the records of other cases showed a preponderance of cases among males, especially in early and middle life. Some of these were associated with other acute and chronic inflammatory conditions of lung or pleura, but no direct connection between them could be made out.

The symptoms produced were, in the majority of cases, those of dyspnœa and cough, followed and relieved by free expectoration. The dyspnœa has rarely proved fatal. The physical signs are those of bronchial catarrh, unless some other affection of the lung be present. The sputum is muco-purulent, for the most part, and the casts are found intermingled with it. Neither the Charcot-Leyden crystals nor the spiral threads of Curschman have been discovered in association with them. The casts were most frequently expectorated at night. Hæmoptysis has occurred in some cases, but has generally ceased with the evacuation of the casts. The course of the temperature varies with individual cases, sometimes rising with the

formation of the casts and falling again after their expectoration. The access of the disease is generally very sudden, without premonitory symptoms. Each attack may last but a few hours, but there is a strong tendency to recurrence at varying intervals, extended in some recorded cases to several years. The liability to the disease would seem to last through life. Of its etiology nothing certain is known. Treatment up to the present time has been singularly unsuccessful. Iodide of potassium and lime-water inhalations have been the only drugs for which the least result has been claimed.—*The London Medical Recorder.*

Formulæ for the Administration of Creasote.—Dr. Keferstein has published some good formulas for the administration of creasote.

℞. Creasote..... gr. xx.
Alcohol..... ʒ vj.
Cinnamon water..... ʒ iij.
Cinnamon syrup..... ʒ vj.
M. One tablespoonful three times daily.

For the pill-form the following is recommended:

℞. Creasote..... gr. lx.
Powdered marshmallow root,
Purified liquorice.....āā ʒ jss.
Mucilage of gum arabic..... q. s.
M. Div. pill. No. cxx., coat with gelatin. Sig.: One pill three times daily.

In irritative cough and diarrhœa the following is administered:

℞. Creasote..... gr. xxx.
Acetate of lead,
Opium (pure).....āā gr. v.
Extract of liquorice..... ʒ jss.
Mucilage of gum arabic..... q. s.
M. Div. pill. No. 50. Sig.: One pill three times daily.

For children creasote in the form of the following emulsions seems best adapted:

℞. Creasote..... gr. xx.
Dissolve in almond oil..... ʒ j.
Gum arabic..... ʒ v.
Water..... ʒ iij.
M. Make an emulsion and add
Comp. tinct. of orange-peel..... gtt. xv
Oil sugar of peppermint..... ʒ j.
M. One teaspoonful two to five times daily.

For drop doses the author uses the following:

℞. Creasote..... gr. xlv.
Tincture of cinnamon..... ʒ j.
M. Fifty drops three times daily in half a cup of warmed milk or Malaga wine.—*Deutsche Medicinische Wochenschrift.*

The Development of the Malarial Parasites in Tertian Fever.—Dr. Golgi asserts that, similarly as in quartan fever, so in tertian fever the origin of the disease is an amœboid organism which enters the red blood-corpuscles, and then goes through certain stages of development, which, in regard to succession one upon another, and in regard to symptoms, appear with unchangeable regularity (*The London Medical Recorder*, October 21, 1889). As soon as the infection has taken place, and the typical clinical forms of tertian fever have developed, there is always positive proof forthcoming of a characteristic condition, whether before or during or after the fever attacks. With numerous preparations and drawings Golgi describes the various phases of development, and the different species of parasites in simple tertian fever. He also explains the observations he has made in clinical cases of mixed fevers. Thus, in the blood of a patient with treble quartan fever there were three distinct generations of parasites, which came to maturity always one after another, day by day. The examination of the blood was confirmed by the regular succession of a violent, a medium, and a very slight attack. As to their biological properties the parasites of the tertian fever are thus distinguished from those of the quartan fever: 1. By the completion of their development-cycle in two instead of three days, as in quartan fever. 2. By the different character of the amœboid movements, which are more active in tertian fever. 3. By the relation of the parasite to the red blood-corpuscle that harbors it. While in quartan fever the substance of the attacked blood-corpuscle maintains its characteristic yellowish-green color until the last phase of distinction, the action of the parasite of the tertian fever on the other hand is very early discerned, the blood-corpuscles losing their color, even when the parasites occupy as yet but a small portion of them. This rapid decoloration appears to be connected with the rapidity with which the parasite sends out its protoplasmic shoots into all parts of the blood-corpuscle—even to its periphery. In respect of their morphological properties, too, the two kinds of parasites differ. 1. The protoplasm of the quartan fever parasite has a much finer appearance. This is chiefly observable in the early phases of development of each kind. 2. In quartan fever the pigment appears in form of thicker grains and bacilli, which in tertian fever are of extreme delicacy. 3. The process of separation differs in an extraordinary degree in the two kinds of parasites. According to Golgi's views the numerous varieties of intermittent malarial fevers are simply varieties or combinations of the two chief types—the tertian and quartan fever.

The Influence of Drugs on Putrefactive Processes in the Intestine.—Dr. Stieff reviews the experiments and writings of those who have shown that such substances as phenol, indol, skatol, and kreosol, found in the urine, are really products, in the healthy individual, of decomposition going on in the intestine under the action of the micro-organisms of putrefaction. In individuals in whom there is some putrefactive process taking place elsewhere in the body, owing to some pathological condition, these substances will appear in the urine in excess. There will also be a similar increase when the absorption from the intestine of the normal products of digestion is insufficient or interrupted. He next discusses the experiments which have been made to determine whether the introduction of antiseptic materials into the intestine would not interfere with the decomposition of albuminous bodies there. As he does not regard the results of these experiments as conclusive, and as it is important to possess some substance which has this power of checking putrefaction in the bowel, he himself undertook some investigations on the subject, performed on a series of patients in Gerhardt's clinic. The drugs employed were calomel and camphor, and careful analyses were made of the urine while they were being given. The experiments he details fully, and sums up the results in the following conclusions: 1. Calomel, given in doses of five grains three times a day, exhibited no disinfecting power in conditions of increased decomposition in the intestine. 2. Consequently it can scarcely be recommended for the purpose of checking putrefaction in the intestine, on account of the large dose which would need to be employed. 3. Camphor appears to possess a slight restraining power on putrefaction, since, in two cases, doses of five grains three times a day, produced a diminution of the intestinal decomposition. 4. This action of camphor does not appear at once, and is only distinct after two or three days.—*The American Journal of the Medical Sciences*, December, 1889.

Sweating of the Feet.—The result of extensive experiments in the German army as to the best treatment for excessive sweating of the feet has been to prove the great superiority of chromic acid over all other applications. Of 18,000 cases in which chromic acid was used, forty-two per cent. were reported "cured," fifty per cent. "improved," and only eight per cent. "unrelieved." The feet are first bathed, and, after being thoroughly dried, a five per cent. solution of the acid is applied with a brush. Two or three applications suffice, as a rule, but the treatment has sometimes to be repeated after a fortnight. *British Medical Journal.*

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THE HEART LESIONS AND HEART SYMPTOMS OF CHRONIC ENDOCARDITIS.

REALIZING that the common diseases are of most interest to the practitioner, Dr. Delafield (*Journal of the American Medical Association*, October 19, 1889) draws attention to some prominent features of the above disease, observed by him in his practice and in post-mortem examinations. Nearly half of his paper is devoted to a classification of the associated kidney diseases, to which we need not at present refer.

Chronic endocarditis is a very common disease, presenting a great variety of symptoms and many degrees of intensity. Taking for example the valvular diseases, which are most easily observed, we find that of two patients with the same valvular lesion one may enjoy good health and attend to his daily work, ignorant perhaps that he has any disease; while the other presents very serious, perhaps fatal, symptoms. In order to treat the patient properly, we must search out the cause of this difference in the symptoms.

It seems clear that most of the important symptoms, such as the dropsy and the disturbances of assimilation, as well as the brain and lung complications, are due to abnormal blood-supply to the tissues. Why, then, is the circulation disturbed in some cases and not in others? It is evident that the difference is not due simply to the amount of interference with the mechanical functions of the valves. Of course, many of the symptoms are closely connected with disease of the kidneys, which are often seriously affected when a superficial examination of the urine gives negative results, and which are rarely found healthy in fatal cases; yet many patients are free from kidney complications. Apart from the condition of the kidneys, the most important causes of variations in the intensity of the symptoms are, perhaps, the *intensity of the endocarditis*, and the *irregularities in the action of the heart*.

In some persons the heart symptoms which follow the first attack of endocarditis are due simply to mechanical injuries produced by the inflammation and left behind by it, the inflammation itself having disappeared, never to return. They suffer from deformity, not from disease. The changes in the cavities and walls of the heart which result from such deformity are not as likely to follow as when chronic disease is left.

Chronic endocarditis may, especially in children, directly follow the acute form, or it may be chronic from the first, or it may be developed in damaged valves long after an acute attack. It varies greatly in intensity at different times, and may suddenly cease altogether, but its general tendency is to persist and to involve new portions of the endocardium, although its progress may be checked for a time, now and then. It is a productive inflammation, with the formation of new tissue, but without exudation.

There are two conditions seen in different patients, or at different times in the same patient.

The *more active* form presents very considerable growth of cells and also a death of cells, so that the inflamed endocardium is thickened in some parts, and ulcerated in other parts, upon which thrombi are apt to form. Many such cases prove fatal in six or seven weeks, and many more within six months. The patients suffer intensely from disturbed heart-action; delirium, convulsions, paraplegia, cough, hæmoptysis, dyspnœa, nausea, vomiting, dropsy, loss of flesh and strength, and anæmia, and a rise of temperature. Although the tendency is downward, the patient may experience temporary or permanent relief from the inflammation at any time. As the inflammation is active, rest in bed, the use of cold or of counter-irritation over the heart, are likely to be of value.

The *less active* form presents thickening of the basement-substance, with more moderate growth of cells, and without cell-death. There is some roughening of the surface, with small vegetations, but no thrombi form. The cases continue for years, with intermissions. Many exhibit no symptoms at all. Many present one symptom after another. The best treatment is an out-door life with as much exercise as they are able to take.

In either of these forms, degeneration or calcification of the inflamed endocardium or of the thrombi may occur.

Abnormal heart action is generally a serious symptom of the disease, although it is absent in some cases. It may arise from the intensity of the inflammation, from advanced stenosis or insufficiency of the valves, from dilatation and hypertrophy of the ventricles; and in rare cases very intense disturbances may be caused by chronic myocarditis and diseased conditions of the coronary arteries.

A very important cause of irregular heart-action is contraction of the smaller arteries, with increased arterial tension and venous congestion. The cause of such attacks is unknown. They may occur frequently or infrequently, lasting for hours, days, or months; the heart-action becomes at once rapid, forcible, feeble, and tumultuous, in proportion to the degree and suddenness of the arterial spasm. These paroxysms are not determined, as to their severity, by the severity or extent of the endocarditis. Thus a patient with incipient disease may suffer greatly with precordial pain on lying down, and with dyspnœa on exertion, the health being otherwise good and the urine normal, though the heart is enlarged and the radial pulse tense—the symptoms yielding readily to remedies (such as nitrite of amyl, chloral, nitro-glycerine, opium, and potassium iodide) which dilate the arteries; while another patient, with advanced and progressive disease, may feel well except when paroxysms of arterial contraction occur. The remedies above mentioned gradually fail to relieve the paroxysms. The attacks become more frequent, the

pulse becomes tense but small, the heart's action feeble, or tumultuous and weak. Out-door life is then the best remedy, with well-regulated exercise. As the disease advances stenosis or other valvular changes become marked and the patient is compelled to keep quiet. Sometimes a patient with old progressive disease, without marked, symptoms, will, upon intercurrence of a slight pleurisy or pericarditis, suffer a sudden and fatal attack of contraction of the arteries, with dyspnœa.

There are certain cases—where the endocarditis may be very mild—in which an obscure form of irregular heart-action of nervous origin occurs. The changes found after death are various. The treatment is difficult, and relief is uncertain.

WHAT SANITARY REFORM CAN DO FOR A CITY.

The Secretary of the Tennessee State Board of Health, Dr. J. Berrien Lindsley, has prepared an article for the forthcoming report of the Board which shows in a striking manner how the health of a large community can be benefited by the intelligent efforts of a few active individuals who have the support of public opinion. The article deserves to be studied by sanitarians everywhere, if only as an encouragement to them to persevere in their apparently thankless task, often against the greatest odds.

Dr. Lindsley's paper is a history in brief of the work of sanitary reform in the city of Nashville, which work was begun in 1874, the immediate incentive thereto being the devastation wrought by the last cholera visitation.

"The Board of Health, as organized in Nashville, consisted of the Mayor, *ex officio*, and of four physicians, chosen by the City Council, with a medical Health Officer exclusively devoted to the work. The city was then small and very poor; hence the Board moved cautiously. No extravagant system of sanitary engineering was urged, no bonds issued, no debt incurred. The first steps were the registration of deaths and thorough local sanitation. Rigid house-to-house inspection by first-class officers was steadily pursued. Health ordinances impartially and uniformly enforced. A complete sanitary survey of Nashville was taken early in 1877, a thing which had not at that time been attempted in any Southern city, and, indeed, in only one or two in America. Its value can hardly be computed. Besides giving that information without which a Board of Health moves in darkness, it is an educator without equal. An intelligent and respected member of the police force, well known and well liked by all the community, visited every house and every building in detail. With suitable memorandum-books, he entered the results of his inquiries. Thus, in a few months, everyone in Nashville was initiated into the work undertaken by the Board—that of making Nashville a city renowned for health and proof against epidemic scourges."

During the epidemic of yellow fever in Western Tennessee, in 1878, Nashville became a veritable city of refuge, and its Board of Health had an opportunity to demonstrate the efficiency of individual isolation and perfect sanitary preparation. The healthfulness of the city at this time was so universally ascribed to the efforts of the Board of Health, that the citizens gave them an ovation as a mark of gratitude and public appreciation of their services. This public demonstration was, of course, of far-reaching benefit in impressing upon the entire community the undoubted value of sanitary reform.

In the fall of 1883 the Board of Public Works came into existence, and at once began the work of remedying the great defects made apparent by the sanitary survey. These were, especially, the deficient water-supply; the almost total lack of drainage; the miserable condition of the alleys; and the pressing need of improved streets and sidewalks in many portions of the city. The progress made in each of these lines has been progressive and most satisfactory. The city has now twenty-five miles of sewers, and the new water-works, nearly completed, will furnish a daily supply of thirty million gallons.

But of more interest than a mere statement of what has been done in the way of sanitary improvement is a comparison of the results following these improvements. This can be stated in very few words:

In 1877 Nashville occupied an area of scant three miles, with a population of 27,000, and a death-rate of 34.55 per 1,000 yearly. Now it has an area of 4,021 acres, or six and one-third square miles, with a population of 68,531, and a death-rate of 15.31.

As Dr. Lindsley justly says, this is progress. It is true that Nashville is favored by its position, and it would be a disgrace were it not a healthy city; but that should be no cause for discouragement for other less favored localities. Even the City of Mexico, built as it is almost in a swamp, is destined, without doubt, to become one of the healthiest cities in the world when the huge sanitary work now in course of construction is completed. Nashville was not a healthy city before Dr. Lindsley and his associates took hold of it, and it is now what they, and others inspired by their zeal and enthusiasm, have made it; and there is no valid reason why every other city and town in the country should not be improved in the same way, if only the right men can be found to undertake the task. They certainly ought to be urged at least to try, after reading of what Nashville has accomplished quietly and as a result of patient effort.

POLITICS AND HOSPITAL SERVICE.

We do not pretend to be familiar with the ins and outs of politics in the City of Brotherly Love, for it is a sufficiently bewildering task to follow all the intricacies of our own local politics; but certainly the Mayor of Philadelphia, if we may trust the tales which are told of him, must have strange ideas of the duties and responsibilities of his office. In order to satisfy a personal grudge, it is said, Mayor Fitler not long ago removed Dr. White from the position which he held as head of the Directors of the Department of Charities and Correction in Philadelphia. Dr. White had long filled this responsible position most ably and satisfactorily, and there was no fault to be found with his administration; but the Mayor wanted his scalp, and he got it. He has now turned his attention to Dr. J. William White, a son of the elder Dr. White, and is reported to have given orders to the Directors of the Department of Charities and Correction to remove Dr. White from the surgical staff of the Philadelphia Hospital.

Dr. White has been on the staff of this hospital for fourteen years, being now senior surgeon. Of his faith-

fulness and devotion to duty in the hospital there is no question, while of his professional fitness we need not speak, for his reputation as an able and skilful surgeon has long since ceased to be local. As nearly as we can see, Dr. White is called upon to resign his work in the hospital for no other reason than that his father would not become the political tool of the Mayor. We sincerely trust that the Directors of Charities and Correction will not lend themselves to the spite of Mayor Fitler, but that they will refuse to obey his order to remove a conspicuously efficient medical officer simply because the father of the latter has incurred the autocrat's displeasure.

THE EAR TROUBLE OF THE EMPEROR OF GERMANY.

We learn from the London *Truth* that the Emperor of Germany is again laid up with his ear trouble, chronic suppurative otitis media, and, in consequence of pressure of business, is dangerously temporizing with the treatment advised by his medical attendant. With a hereditary predisposition to scrofula and a consequent chronicity of the affection, it will be a question of time only when the affection shall take an incurable turn, and invite directly an extension of inflammatory action to the meninges, which may jeopardize the life of the distinguished personage. In this country we are taught that such an affection is curable by surgical interference, and the veriest pauper here has a chance equal to that of a king.

SIMPLE AND SUCCESSFUL TREATMENT OF A CASE OF SNAKE-BITE.

There are many vaunted remedies for rattlesnake-bite which have one peculiarity in common, namely, that they are never at hand in time of need. Consequently the most serviceable and most frequently used remedies are those which are found in every home, whiskey taking the lead. Ammonia is also of great value on account of its therapeutic qualities, and because it is a household article. In the *Medical News*, September 14, 1889, Dr. Memminger relates a case in which he combined the use of these remedies with a very skilful and ingenious application of compression bandages, in a way which is well worthy of thoughtful consideration.

The patient, a negro, thirty years of age, was bitten in the forefinger of the right hand by a rattlesnake two feet and a half long. He cried for help, ran some fifty yards, and fell, unconscious. A friend at once put a ligature about the arm, and poured half a pint of whiskey down his throat. When Dr. Memminger saw him, about ten minutes after the accident, the arm was enormously swollen, rather from the poison than from the ligature, and the patient was completely unconscious, with pulse thirty to the minute, slow respiration, cold limbs, and escape of fæces. Although the case seemed hopeless, he made a free incision through the wound to the bone, cutting both vein and artery of the finger, and applied Esmarch's tourniquet just below the shoulder. Then, with Esmarch's elastic bandage, he drove as much blood as possible out of the arm, working from the tourniquet downward, and causing the wound to bleed freely. The tissues through which the incision passed were almost black, and the blood, of which about a quart was lost, failed to coagulate. Twenty minims of a solution of ammonia in water (1 to 3) were thrown into the median basilic vein, and this injection was repeated in half an hour.

At the end of an hour after the accident the patient was able to sit up and talk with his friends. It was evident that that portion of the venom which had passed the ligature had now lost its effect upon the system. But how much venom still remained in the arm below the ligature could not be known. Dr. Memminger therefore determined to allow this residual portion of venom to be absorbed into the system in small doses.

The tourniquet was loosened for about three pulse-beats. The patient at once fell into unconsciousness as profound as before, and seemed in as great danger as at first. Ammonia was injected, once only, in the same manner as before. In an hour the patient had rallied. Six times within seven hours the tourniquet was loosened, and each time collapse followed, and revival within an hour under a single injection of ammonia. At the end of the seventh hour the tourniquet was taken away, the wound was dressed with boracic acid, and the patient was taken home delirious. Two days later he walked to the office to have his finger dressed. The hand was painful, and erysipelas threatened, but did not occur. In a few days the patient was entirely well.

MUNICIPAL LODGING-HOUSES.

The timely article of Dr. Crampton in the present issue calls attention to a matter of great importance in connection with the proper care of the large number of police-station lodgers of this city. The law to which he refers gives ample power to the Commissioners of Charities and Correction, and, in the absence of any argument to the contrary, offers no excuse for its non-fulfilment. The truth, as Dr. Crampton graphically depicts, needs nothing more than the mere telling to prove the crying necessity for reform of the present lax system. The police stations are more than overcrowded, are badly ventilated, and the lodgers, many of whom are unfortunates out of employ, are treated little better than dogs. There is no excuse for this state of affairs, and every humanitarian will rejoice that the subject is brought up in a shape to challenge discussion and stimulate action on the part of the proper authorities.

IS MEDICINE A SCIENCE?

This ancient inquiry comes up for discussion at periodic intervals. The aphoristic sayings of various learned and satirical men of olden time are quoted to the end that medicine may be shown to have not a scientific peg to stand upon. And the general result of the discussion is what, in sporting parlance, may be called a knock down for the other side.

Medical men who are aware of both the strength and weakness of their calling will best answer the question by saying at once that medicine is not a science, nor does it pretend to be. It is an art; that is to say, it is a practical application of special knowledge, and manipulative skill. The real question comes, then, whether the medical knowledge upon which our art is based is really scientific knowledge, *i.e.*, knowledge which is coherently and logically

classified. And the answer of course is, that some branches do truly belong to science, while some do not. Anatomy, chemistry, physiology, pathology, are all, in the highest sense of the word, scientific studies. Therapeutics is certainly not, though it is much nearer to science and further from empiricism than it used to be. Therapeutics is what is popularly meant when medicine is spoken of, and hence we must answer the question, "Is medicine, practically applied, based upon scientific rules and rigidly classified knowledge," in the negative. Medicine is an art with much science, but more empiricism, as a basis. It could not be practised properly without scientific knowledge, or carried on successfully without the teachings of empiricism. But every year the scientific element grows more important, and more dominant in its relation to empiricism. The medical art can never emancipate itself entirely from the latter, but in time we can hope that it will yet gain its strongest help from the former.

News of the Week.

The Epidemic of Influenza is still on the decline, and will probably disappear within a few days with the incoming crisp weather. In the meantime everybody will have had the disease, or will believe they have had it, as it is too fashionable at present to allow of any different probability. The "grip" is charged with accountability for every dereliction of duty, every missed engagement, every indisposition for work, and compasses the diagnosis and tinges the complexion of every other malady. If everyone who has had an ordinary cold has suffered from the grip, the latter disease must be very prevalent indeed. And who is there who dares dispute the fact when the patient makes his own diagnosis, and who reads the absurd sensational accounts of the supposed dreadful ravages of the disease as given in the daily press?

Section on Diseases of Children, Academy of Medicine.—Dr. L. Emmet Holt has been elected Chairman, and Dr. Walter Lester Carr Secretary, of this Section.

Death from Ether.—Coroner Levy held an inquest January 13th in the case of Stephen Gillen, a painter, twenty-eight years of age, of 147 Cherry Street, who died from etherization in Bellevue Hospital in November last, under an operation for removing an ulcer from the neck. Dr. Dunham, of Bellevue, was in charge of the operation, and was assisted by Dr. John Brooke, Dr. Stewart, and Dr. Paton. Dr. Brooke administered ether under the direction of Dr. Dunham, and the patient died. Dr. Gerster testified that the patient would have died of fatty degeneration of the heart whether chloroform or ether had been administered, and that it was impossible to previously determine whether the patient had fatty degeneration or not. The jury exonerated the physicians in charge.

A Million Dollar Hospital for Pittsburg.—The will of the late John H. Schoenberger, the millionnaire Pittsburg iron-master, was filed in Surrogate Ransom's office January 13th. He made this fortune in Pittsburg, but during the last few years of his life he lived in this city, where he died on November 13, 1889, leaving a fortune estimated at $4,000,000. He bequeaths nearly $1,000,000 in money and real estate to establish a public hospital in Pittsburg as a memorial to his first wife, Margaret Shoenberger. It is to be called "The St. Margaret Hospital." He bequeaths, as a site for the buildings, a plot of ground three hundred by four hundred feet at Forty-sixth and Davidson Streets, in Pittsburg, and provides that three-fourths of the institution shall be devoted to the lodging and care of general patients, and one-fourth for the shelter and care of incurables. For its support he bequeaths $550,000, $250,000 of which is to be expended on the building, which he directs shall be made as near as possible to the design of St. Luke's Hospital in this city. He directs that $35,000 shall be expended on the grounds, and $65,000 in furnishing the hospital; the balance to be held by the hospital corporation as a permanent fund for the maintenance of the institution. Another clause bequeaths an additional $250,000 to this permanent fund. He expresses a wish that the Diocesan Convention of the Protestant Episcopal Church shall, within two years after his death, select nine laymen to organize the hospital corporation. In case the Convention declines to do this, he requests his trustee and executors to make the selection.

The Infant King of Spain, who, during the past few days, was considered in a critical condition, is now reported out of danger. The statement that the disease from which he was suffering was tubercular meningitis is now believed to be erroneous, the febrile symptoms being due to an attack of capillary bronchitis, which was a complication of the influenza from which he had been suffering. At best, however, he appears from his likeness to be a feeble son of a feeble sire. With an hereditary taint of scrofulosis, and with a necessarily strong predisposition to phthisis, the chances of a long life are very much against him, not the least of which is shown in his large rachitic head and his comparatively puny body. Under the latter circumstances, a high temperature with mental hebetude and accompanying languor were ominous symptoms which pointed with almost reasonable certainty to the probable involvement of the meninges by a tuberculous deposit.

Nobody Wants the Hospital.—A county hospital has just been completed in Omaha, but the contractors cannot get anybody to accept it and take it off their hands. The county commissioners refuse to accept the hospital except from the hands of the architect, and the latter for some reason cannot be found. The result is that the contractors have a very fine hospital on their hands, but do not know exactly what to do with it.

Lengthening the Term of Study.—The Royal College of Physicians in Great Britain has passed a resolution that the medical curriculum shall be lengthened to five years, instead of four as at present.

A Plea for Many Medical Schools.—A contemporary from the banks of the muddy Missouri contends, in a long and earnest editorial, that there are not too many medical colleges in the United States, seeming to hold the view that Beecher used to hold concerning religious sects, that the more there are of them the better. The editor ought to know whereof he speaks, for he is secretary, professor, demonstrator, and possibly other things, in his own local school.

The Death of Professor Von Troeltsch, of Wurtzburg, the celebrated specialist in ear diseases, is announced.

Patented German Drugs.—According to Dr. F. E. Stewart, *New York Medical Times*, sulphonal (as well as some other German drugs) is both patented and trademarked in the United States. Sulphonal is sold here for $1.35 per ounce, while in Germany it is free and sold for about forty cents per ounce.

Regulating Matrimony.—A bill has been introduced into the Legislature of Kentucky, which prohibits marriage with an idiot, lunatic, pauper, vagrant, tramp, drunkard, gambler, felon, or any person rendered physically helpless or unfit for the marriage relation, or any person with a violent temper, or who has within one year been a frequenter of any immoral house.

Medical Experts.—At a meeting of the Kings County Medical Society, January 14th, the following resolution was discussed: "*Resolved*, That it is the sense of this society that the physicians who are called upon to give evidence in legal cases with reference to the existing condition of patients, should insist, if it be possible, upon meeting in consultation the physicians to be called by the other side, so that there may be a full interchange of views before they give their evidence." Members of the legal profession were invited to take part in the discussion of this question.

Curious Lunacy Legislation.—The Rhode Island Legislature has passed a law compelling the Supreme Court to appoint a commission for every patient who should make application for one. The Supreme Court has decided that no insane person can be held without "due process of law," and it has also been declared that the statutory process is not a "due process of law;" hence it is a question if a person can be confined in a Rhode Island insane asylum at all, except after trial by jury.

A New Medical Library for New York.—A nucleus for another medical library and rendezvous in New York has just been brought into possibility, says the *Journal of the American Medical Association*, by the junction of the Mott Memorial Library and the State Medical Association. They have five thousand volumes and eight thousand volumes, respectively, and most eligible headquarters at 64 Madison Avenue. They have a small fund each, and the opportunities for a steady increase in a membership of seven hundred physicians in the State Association. In union there is strength, and it will appear to most persons very unwise to attempt the great expense of establishing and keeping up another medical library in this city.

Cheap Medication.—A bill has been introduced in the Legislature of the State of New York incorporating the People's Co-operative Medical Association of Brooklyn, which is to furnish cheap medical attendance and medicine. Capital, $1,200.

Investigation of Electrical Execution in France.—The medical section of the French Academy of Sciences will investigate the subject of execution by electricity. The inquiry will be aided by the expert electrician, Marcel-Desprez. The visit of the American inventor, Edison, and his presentation before the Academy of his views concerning the painless and instantaneous extinction of life by electricity, have been the incentives to this investigation.

Is Suicide a Crime?—An interesting question has just been discussed and decided by the Court of Appeals, in the case of Darrow against the Family Fund Society. James H. Darrow, a policy-holder in the defendant society, died in the State of New York from the effects of poison taken by him, and which was administered by himself with intent to take his own life. The insurance contract contained a clause that it would be void if the assured should die "in violation of, or attempt to violate, any criminal law of the United States, or of any State or country in which the member herein may be." The judge decided in favor of the plaintiff, although to commit suicide is contrary to the laws of this State.

A Ladies' Medical Society has been organized in this city, under the title of the Alumnæ Association of the Woman's Medical College of New York. At a recent meeting the subject of basilar kyphosis was learnedly set forth.

The American Society for Psychical Research will, it is said, abandon its organization after its next annual meeting. This is a confession that it could find no ghosts, and no clairvoyant or telepathic phenomena.

To Suppress a Bogus Medical College.—The Rutland, Vt., physicians are moving for the suppression of the bogus medical college of that town.

The Chloral Treatment of Scarlet Fever is strongly recommended by Dr. Wilson, of Philadelphia. He gives the drug in doses of gr. j. to gr. v.

Annual Meetings.—Most of the county and other local medical societies hold their annual meetings during this month. The following are two that have just been held: The sixth annual meeting of the Amsterdam (N. Y.) Medical Society was held on January 7th, and was followed by the usual dinner. The following officers were elected for the ensuing year: President, Dr. W. H. Robb; Vice-President, Dr. R. G. Johnson; Secretary and Treasurer, Dr. C. F. Timmerman; Executive Committee, Drs. Robb, Timmerman, and French; Pathological Committee, Drs. Stover and MacMartin. The meeting of the Luzerne County (Pa.) Medical Society was held on January 8th. Dr. G. W. Guthrie was elected President, and Dr. Morris Gibson, Secretary and Treasurer.

The Annual Meeting of the Hartford (Conn.) Medical Society was held at the residence of Dr. Russell. This was the twenty-fifth year that the annual meeting has been held at Dr. Russell's, and it is regarded as quite a social occasion by the Society. The officers elected for the ensuing year were Dr. Russell, President; Dr. Stearns, Vice-President; Dr. Taft, Secretary; Dr. Alton, Treasurer, and Drs. Hudson, Shepherd, and St. John, Censors. The members of this Society expect soon to build a hall with laboratory, museum, library, and lecture-rooms.

A Woman President of a Medical Society.—At the annual meeting of the Montgomery County (Pa.) Medical Society, held in Norristown on January 8th, Dr. Alice Bennett was unanimously elected President. The other officers chosen were as follows: Vice-Presidents, Dr. D. R. Bergey and Dr. Henry T. Sykes; Recording Secretary, Dr. H. H. Whitcomb; Corresponding Secretary, Dr. J. B. Carroll; Treasurer, Dr. Ellwood M. Corson.

The Middleton Goldsmith Lecture.—Professor William Pepper, of Philadelphia, delivered the Middleton Goldsmith Lecture before the New York Pathological Society, in the hall of the Academy of Medicine, on Wednesday evening last. The subject of the lecture was "Hepatic Fever."

Presentation of Portraits of the Founders of the Pathological Society.—On Wednesday evening, before the delivery of the Middleton Goldsmith Lecture, a presentation was made to the Pathological Society of the portraits of Drs. Middleton Goldsmith, Lewis A. Sayre, and John C. Peters, founders of the society. The presentation was made on behalf of the donors by Dr. William P. Northrup. In his address the speaker sketched briefly the origin of the society, and drew a very happy picture of the first meeting at Dr. Sayre's office. The President, Dr. Roosevelt, accepted the gift for the society. He drew attention to the fact that as yet pathology had advanced medical science but little toward its true object, the cure of disease, but he believed that the time was coming when this object would be attained, and when, by a more perfect knowledge of the beginnings of disease, its treatment would be more rational and more satisfactory in its results.

The Boston Board of Health has added membranous croup to its list of contagious diseases.

A New Biological Laboratory has recently been built and handsomely equipped for the University of Toronto.

A New Diuretic, called "Duretin," has been recommended by Dr. Gram, of Copenhagen. It is chemically the obromium-natrium salicylicum, and resembles caffein, except that it has not its exciting effects. The dose is 15 grains.

The York County (Pa.) Medical Society held its annual meeting on January 2d, in York. After the election of officers the Society adjourned to the City Hotel, to partake of its annual banquet. Dr. I. C. Gable, of York, was elected President for the ensuing year, Dr. D. K. Gotwalt, Secretary, and Dr. L. Frey, Treasurer.

Why Reporters are Excluded.—The Chicago Medical Society has a rule prohibiting reporters from attending its meetings, yet, despite this, much of its discussions on any topic of public interest manage to ooze out. At one meeting a member stated that tincture of myrrh, given every fifteen minutes, was an infallible cure for diphtheria. He had had one hundred cases without a death. This promptly appeared in the daily papers. It was certainly a very interesting item of news.

The Philadelphia Hospital.—Our Philadelphia brethren are much stirred up by the recent action of the Board of Charities regarding the staff of the Philadelphia Hospital. The *Medical and Surgical Reporter* says: "The Board of Charities and Correction of Philadelphia met December 30th, and by a solid vote of those of its members who are supposed to be the creatures of the Mayor, displaced nine members of the medical staff of the hospital, against whom no charge of unfitness could be brought, and put nine new men in their places. This action has brought upon the unworthy members of the Board the condemnation of every newspaper in Philadelphia which is deserving of respect."

A New Hospital in Baltimore.—The Garrett Free Hospital for Children has recently been opened in Baltimore.

Homœopathic Druggists and the Law.—The members of a prominent homœopathic drug firm in this city have been brought into court, on complaint of the Board of Pharmacy, for violating the statute in regard to a license. As the law stands, no one is allowed to practise pharmacy without a license obtained after examination from the Board of Pharmacy. Hitherto this law has not been enforced as regards the dispensers of homœopathic remedies, though no satisfactory reason appears why they should have been exempt. One of the lawyers for the defendants, who pretends that it is great injustice to demand that his clients should be examined by allopathic druggists (whatever they may be), makes the astonishing assertion that the prosecution of this drug firm is simply "preliminary to an allopathic attack on homœopathic physicians."

The New Building of the New York Hospital.—Ground was broken some time ago for an addition to the New York Hospital, providing accommodations for the library and museum, and dormitories for the students in the training-school. The new building will be after plans by Mr. George B. Post, and will be fire-proof. It will front on Sixteenth Street, in the rear of the hospital, to which it will be similar architecturally. It will be built of pressed brick, with Nova Scotia stone trimmings, and will be seven stories high, one hundred feet deep, and thirty-five feet front. The basement will be one room, devoted to the pathological museum. The first and second floors will be for the library, one large room, with galleries, alcoves, etc. The remaining five floors will be dormitories for the nurses of the training-school. Each floor will accommodate twelve nurses. The rooms will be arranged in suites of three, two bed-rooms and a sitting-room in each suite. Two nurses will occupy each suite. On the roof will be a garden, probably enclosed in glass, where patients can enjoy the cool breezes that blow over the house-tops. Here there will be flowers, plants, an aquarium, seats, and hammocks. The new building will cost about $150,000, and will probably be ready for occupancy by October.

A Chance for a New Chair at Vassar.—Dr. E. Golay, a French physician, advocates a wider basis to the education of the fair sex. There is, he considers, one thing especially wanting in the tuition of the present day, and he is anxious that girls when at school should be instructed in the art of bringing up children, which, to his mind, is the most useful of all the subjects which they should learn.

An Osphresometer.—Dr. Zwaardemaker, of Utrecht, has devised an instrument for measuring the intensity of the olfactory sense. It consists of a bent tube which may be lengthened or shortened at will, one end of which contains the odoriferous substance. It has been found that the intensity of the odor varied indirectly with the length of the tube, and this principle has been taken advantage of to measure variations in the intensity of the sense of smell.

The Boyertown (Pa.) Medico-Chirurgical Association was organized on January 3d. It is composed of medical practitioners living in the adjoining sections of Berks and Montgomery counties, and its objects are stated to be "to promote harmony and good fellowship among its members, to discuss medical and surgical topics, and in general to elevate the standard of the medical profession." The officers of the new society are Drs. F. R. Brunner, President; De Long and Heffner, Vice-Presidents; Wertman, Secretary; Leidy, Corresponding Secretary; and Rhoads, Treasurer. The society will meet every four weeks about the period of full moon, on account of the members who have some distance to come.

Dutchess County Medical Society.—The annual meeting of the Dutchess County (N. Y.) Medical Society was held in the court-house, Poughkeepsie, on January 8th. A resolution was passed endorsing the principle of the Batcheller bill, which provided for the passage of a law compelling the removal of the indigent insane from the almshouses of the respective counties to the State institutions for the insane. There was some opposition to this resolution, on the ground that the State institutions were inadequate to care for all the insane, and that no mandatory law should be passed compelling the removal of the insane to State institutions until sufficient accommodations for their reception had been provided. The principle of the bill was, however, endorsed, the question of its present expediency being left out of consideration. The following officers were elected: President, Dr. Robert K. Tuthill; Vice-President, Dr. H. C. Wilbur, of Pine Plains; Secretary, Dr. William Cramer, of Poughkeepsie; Treasurer, Dr. Charles H. Langdon, of the Hudson River State Hospital. The attendance at the meeting was, for some unexplained reason, unusually small.

Stanley's Testimony to the Value of Vaccination.—In a recent letter received in London from Stanley, the explorer writes: "The small-pox broke out among the Manyena and their followers, and the mortality was terrible. Our Zanzibaris escaped this pest, however, owing to the vaccination they had undergone on board the Madura." Such evidence is, of course, not required by any sensible man, and will not be admitted by the anti-vaccinationist, who will invoke the favorite argument of the sceptic, that of coincidence. Nevertheless it is interesting.

The Hospital Saturday and Sunday Collection had received, up to January 16th, $31,740.48.

Prize Essay on Epilepsy.—Dr. H. A. Hare, of the University of Pennsylvania, has been awarded a prize of four thousand francs for an essay upon epilepsy by the Académie Royale de Médecine de Belgique.

A Presentment against Christian Scientists.—The Grand Jury of Onondaga County, N. Y., has made this presentment against Christian Scientists and Faith Cure Healers:

Whereas, It is notorious that in the city of Syracuse there are many persons engaged in the practice of medicine who have in no manner complied with the statutes of this State; and

Whereas, By such practice the health and welfare of our community is greatly imperilled; be it therefore

Resolved, That it is the opinion of the Grand Jury that the District Attorney of this county owes it as a duty to the people to request the aid of the medical societies of the city and county in searching out all such illegal practitioners, as the laws of the State provide.

There have been several deaths in Syracuse traceable to the neglect of proper medical attention consequent on belief in these irrational methods.

The Late Dr. Lewis Hall Sayre.—At the meeting of the Board of Governors of the Hackensack Hospital, held on January 7, 1890, the following resolutions were adopted and ordered to be placed on the minutes of the board:

Resolved, That the death of Dr. Lewis Hall Sayre, one of the consulting surgeons to this hospital, is deplored by us as a great calamity to this institution, and deprives us of a man possessed of fine surgical knowledge and skill.

Resolved, That the services of Dr. Sayre, always so freely and cheerfully rendered, have been of inestimable value to the medical staff and patients of our hospital, and can only be suitably estimated by One who said, "Inasmuch as ye have done it unto one of these, my brethren, ye have done it unto me."

Resolved, That to the family of the deceased we offer our heartfelt condolence, and assurance that the memory of his skill and generous kindness will be cherished by this board and passed on to our successors as a precious legacy.

DAVID TERHUNE,
ALVAH TROWBRIDGE,
DAVID ST. JOHN, M.D.,
Committee.

Obituary.

EDWARD LEICESTER PLUNKETT, M.D.,

NEW YORK.

DR. EDWARD LEICESTER PLUNKETT died at his residence, 147 West Sixty-first Street, on January 10th, of pneumonia complicated with acute gastritis, after an illness of one week. He was born at Pittsfield, Mass., on July 6, 1856. He attended the Graylock Institute, South Williamstown, and in the fall of 1877 entered Lafayette College at Easton, Pa. While in his first year at this institution, he had the misfortune to lose his eyesight by purulent conjunctivitis. After a year or two he commenced the study of medicine, entering the New York College of Physicians in the fall of 1880. All of his lessons were read to him, and aided by a remarkable memory and a keen logical sense, to which was added an indomitable perseverance, he graduated from that institution with honor in 1885.

It was Dr. Plunkett's ambition to undertake the study of physical diagnosis with a view to teaching the same, and he had made some progress in that direction. But various circumstances turned his attention to quizzing medical students, and he entered upon this work with his customary ardor. In it he attained conspicuous success, having had as many as thirty men in his class at one time.

His tall figure was a familiar sight to the frequenters of the College of Physicians and Surgeons during the last ten years, as he regularly attended each year all the lectures on the primary branches. He had a noble ambition to perfect himself in his chosen line of work, and had at the last the keen satisfaction of knowing that his ability was recognized and generally admitted.

Society Reports.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, December 6, 1889.

DR. FRANCIS P. KINNICUTT, PRESIDENT, IN THE CHAIR.

(Continued from p. 55.)

Discussion of Dr. Peabody's paper on the "Therapeutics of Typhoid Fever."

The Rational Treatment of Typhoid Fever.—DR. J. WEST ROOSEVELT said, that as one who most strongly believed in, and practised, the symptomatic or rational treatment, he dissented from the description of that method given by Dr. Peabody. The rational symptomatic treatment consisted in meeting individual symptoms, but not by methods which were persisted in after they had been shown to be injurious. Antiseptics, as now defined, did not form a part of rational treatment. Indeed, Dr. Peabody had called attention to the fact that beta naphthol was actively poisonous, at times producing albuminuria, etc. As a rational man, he disapproved of giving useless drugs, as gallic acid in hemorrhage; or so called antiseptics to disinfect that which they could not reach, as the typhoid poison; or using antipyretic measures of any kind, if tangible and immediate good did not follow.

In Brandt's statistics one suspicious circumstance was to be noted, namely, that a large number of the patients recovered very early. This fact threw doubt on the diagnosis. The statement that of a very large number of cases coming under treatment before the fifth day none died, was itself sufficient to cast doubt upon the figures.

Difficult to Make Diagnosis before the Fifth Day.—To make the diagnosis of typhoid fever before the fifth day was difficult, and the fact that such a patient recovered in a very short time would be taken in this country as a strong indication that the case was not one of typhoid fever. Yet a number of these patients seem to have recovered very soon. In this country we are not so loose in diagnosis. In Roosevelt Hospital, for instance, distinction is made between typical cases of typhoid fever and the cases of fever of an indefinite type which resemble typhoid and may or may not be typhoid. It seemed probable to him that in the study of statistics of the treatment of typhoid fever the death-rate had not varied much in the past forty or fifty years, just as it has not in pneumonia. Unfortunately, statistical tables sufficiently full to settle such a point are hard to find. We should not look at masses and forget individuals in treatment. The chances of an individual recovering from a given disease were to be estimated by symptoms. The chances which, estimated by statistics, gave a death-rate of ten per cent. in certain diseases, in individual cases are not one in ten at all.

As to Treatment by Antiseptics.—We had not proved that they reached the source of the disease, nor had we proof that they did good, while we did have proof that they sometimes did harm. In the case of the cold-water treatment he thought we could not at all speak so positively. He hardly thought any statistics yet published showed much for or against it. Here, too, in making up statistics it should be remembered that we classify our cases more severely than they do abroad. Comparison of American and foreign statistical records is hard and severe. Moreover, the terms typho-malarial and remittent are common, and destroy the value of our figures. He maintained that in the cold-water treatment the guide was simple; if cold applied was followed by good results, and not by bad, it might be repeated with advantage.

High Temperature not Necessarily Dangerous.—Nevertheless, if one had a patient whose temperature was high, say 105° or 106° F., and yet the general condition was good, it was important to remember that the temperature in itself was not necessarily an indication of danger. In making this statement he was sustained by the observations of a number of others. In such a case, with high fever and no other severe symptoms, the antipyretic measure is needless. In children we very frequently saw a high temperature which did not result in harm. In looking at the temperature as an indication, one could not apply one rule to the child and another to the adult if the fever be regarded from a physical basis. If a high temperature of itself injured the tissues, producing parenchymatous degenerations and violent symptoms which went with them, it should do it in a person of any age. If it did not so act in every case, then the high temperature by itself could not be regarded as of so great importance as some would have us believe.

The Phenomena and Causes of Increased Temperature.—Either the fever heat injured the tissues, or the heat was the direct product of increased tissue-change, or the increased temperature was not at all dangerous. If the first, cold should certainly prevent death, which it does not. If the second, as the production of heat-units seems unchanged by cold bathing, it hardly can be thought that the tissue-change is diminished. He did not wish to deny that both the cold pack and the cold bath were not extremely efficacious under certain conditions. Neither did he wish to deny that he had seen beneficial results from the use of antipyrin and other antipyretics. What he did wish to say was that we must find a better explanation of the benefit derived from the use of cold than the simple statement that increased heat-production and high temperature were deprived of their dangers by its application. Further, as concerned the rational treatment, it should be remembered that it implied one's taking into consideration the temperature, respiration, pulse, and general condition. Yet we had seen it stated in paper after paper that antipyrin, for instance, had lowered the temperature so and so, and that no harm had been done. The same was true of other antipyretic drugs which had come forward. But that was not the view to take of the matter. It was not a question of whether one could lower the temperature by this or that drug, but rather, whether the patient's condition was improved after such a result. It was that which he had in mind when speaking of the rational treatment; it was not the poisoning of the patient by gallic acid, or reducing the temperature below normal, whether by drugs or by external applications.

DR. BEVERLEY ROBINSON said he was disposed to agree with Dr. Roosevelt. But, as he understood the reasons given by the best observers for the use of the cold pack, cold affusion, or even the cold bath, they were not alone that it caused a reduction of the temperature. Even Brandt, he believed, attributed the benefit (in part, at least) to a stimulation of the nervous system, which resulted in reduction of the fever and improved circulation, nutrition, etc. An improvement in the patient's general condition was thus brought about which did not follow the use of antipyretic drugs, such as phenacetin, antipyrin, etc. In view of these facts, he was certainly of opinion that there was a rational use even of cold baths in the treatment of individual cases, and, in so far, he was in accord with Dr. Roosevelt. He thought it was the greatest possible mistake to bring these data from Germany and apply them to the United States. We should take patients as they were seen in America, and treat them judiciously and rationally. Personally, he had been opposed to the cold-bath treatment, not only of typhoid fever, but of high temperature in general in children and in others. For instance, in scarlet fever in children, he had seen instances in which the cold bath had produced bad results. In typhoid fever, however, with high temperature, it had seemed to him that it would be desirable to employ the cold pack or cold affusion, and he did not doubt that in some cases it was of real benefit; but there were others in which he was satisfied that it did harm, as was shown by the impaired circulation, cyanotic condition of the lips and extremities, and the bad pulse. He was

aware, however, that these symptoms were regarded by some authorities as, if not useful, at least not harmful. But he did not agree with them. He exhibited charts showing in detail the treatment and temperature-record of a case of typhoid fever treated in St. Luke's Hospital, and said that in some respects it corroborated the statements of Dr. Roosevelt regarding the rational treatment, which was pursued in this case.

The patient had entered his service November 8th, presumably on the thirteenth day of the disease. The temperature was persistently high throughout the disease, except when reduced by antipyretics. The means employed for controlling the temperature were antipyrin and cold sponging; antisepsis was also tried by means of thymol. On several occasions the temperature was 106° F., and often 105° F. Except for this, however, there was no other symptom which showed the gravity of the disease. In spite of the high temperature throughout, he did not believe the muscular tissues were unfavorably affected in any way, or, if they were, they did not show it. According to his observation, where there was so high a range of the temperature as in this instance there were almost invariably other severe symptoms or signs of a severe case; yet this was not in accord with the statements of some other observers, especially in foreign countries. They stated that parenchymatous changes in the viscera did not seem to be connected with high temperature; that those changes were present often where the temperature had shown a low range. It had also been stated that structural changes were the cause of the fatal result, and they had been searched for in the heart at autopsies in this city, but their presence as the usual cause of death had not been shown. From these facts he was led to suppose that the general nerve-depression was the main factor to be considered, and that it afforded the true explanation of the efficacy of the cold bath when judiciously used. He would also allude to the view, now more or less commonly accepted, that the ptomaïnes developed in the alimentary tract were probably a more important cause of the death-rate in typhoid fever than mere elevation of the temperature, and it was for this reason that one rationally employed intestinal antisepsis. Whether it was a good method or a bad method, he did not know. He simply used it because there seemed to be a basis for it, consisting in the fact that the fatal results came not from the temperature, but from the severity of the poison which produced the high temperature. Of course, the high temperature was a more or less dangerous phenomenon, against which it was proper intelligently to wage war, either by cold baths or other methods. He concluded with the remark that he was disposed to believe that the expectant plan of treatment was the proper one, and that there should be no absolute rule laid down for all cases.

Dr. C. L. Dana said he felt very heartily in sympathy with Dr. Peabody's views. Our results in the treatment of typhoid fever were not what they should be or could be, and he believed Dr. Peabody was working in the right direction in attempting to formulate something more than simply a symptomatic treatment. He had looked over the records of the cases which had been treated in their division of Bellevue Hospital the past year, and had found about twenty-four cases, of which number there were three deaths. In one case, however, the death occurred in a person who was practically dead when he entered the hospital, so that the mortality-rate would be about thirteen per cent. The treatment which he had attempted to carry out while on duty in the hospital, the past eight months, had been, as far as he had tried any positive treatment, the employment of intestinal antisepsis. It seemed to him that that was about the only direction, excepting the use of cold baths, in which we had found any rational indications. His experience had been, like Dr. Peabody's, that the cases in which this method had been tried did seem to run a milder course. Certainly, during the eight months of its trial there was scarcely a death. Still, he had never felt satisfied that the antiseptic treatment was very efficient, and lately it had not been carried out very thoroughly. The present treatment which they employed was, therefore, largely a symptomatic one. He had read some of the articles on the cold-water treatment, and, although much prejudiced against it at first, yet it seemed in that direction there was hope of greater advancement. He thought a good deal of Dr. Roosevelt's part of the discussion bore on obsolete issues. Dr. Robinson had already stated that the object of the cold bath was not so much to reduce the temperature as to stimulate the nervous system. But he thought another point in Dr. Roosevelt's remarks might be criticised; he had said, if he understood him correctly, that the cold bath did not lessen heat production. Dr. Dana believed the contrary—that in abstracting heat it eventually lessened its production, and therefore, the antipyretic measure in itself was a rational one. It seemed to him that Dr. Peabody's substitute for the cold bath, the cold pack, etc., would not be really a substitute, for these antipyretics did not stimulate the nervous system, but had rather the contrary effect.

Temperature in Typhoid Fever.—Dr. A. H. Smith thought that underlying the subject was the question, what was the relation of the temperature of typhoid fever to the essentially diseased condition of the patient? There was a relation of cause and effect, but which was cause, and which effect? It must be assumed that the original poison preceded the rise of the temperature, therefore that the essential disease preceded the temperature. Was there a causal relation in the other direction? Could a high temperature aggravate in any way the action of the poison, or increase its production? Did the fact that the body having several degrees more of temperature, facilitate in any way the production of poisonous material? If it did not, then it would seem that to attack the temperature itself was an entirely erroneous method of treatment. If, on the other hand, it could be shown that a higher temperature did increase the production of ptomaïnes, or any other intoxicating principle, we must attack the temperature as a cause. It appeared to him that we had two classes of poisons to deal with in typhoid fever: (1) the original poison, perhaps beginning with the action of bacilli producing ptomaïnes, or something of that kind, and then perhaps (2) simple sepsis, as a result of decomposition going on in material contained in the intestinal canal, a poison which might arise entirely independently of the original cause of the disease, when favorable conditions were present. He had repeatedly noticed, when the bedclothes were turned down to examine a patient suffering from typhoid fever, a peculiar odor which advised him at once that the stools were in a highly putrid condition. He had almost invariably found that condition of the stools associated with a high temperature, and when the colon was thoroughly washed out the temperature would immediately fall. That was an experience which probably all had had, and it had already been brought forward by others. It would seem to indicate that the reabsorption of material contained in the intestine, entirely independent of the original typhoid poison, caused an elevation of the temperature and vital depression, and pointed to the importance of intestinal antisepsis as far as it could be carried out. So far, at least, as the bowel was accessible from the anus, he thought we should give it a good deal of attention, especially where we found a putrid condition of the discharges. He had used creoline, and had found it benefited the patient materially. Whether we could trace the bacillus into all its recesses, and prevent the formation of the poison, was still an open question.

As to the temperature being an indication of the amount of mischief going on in the system, he did not believe it was a reliable one. He had repeatedly seen cases terminate fatally in which the temperature was moderate throughout. Whether much absorption took place here through the ulcers in the intestine, producing a condition similar to what was seen in the septic absorption by wounds, was another question. He recently had a case

which illustrated both these ideas. Until the last two or three days the temperature scarcely rose above 103° F., there was great enlargement of the liver, extreme tenderness in that region, oscillations of temperature, and evidence of that kind of infection seen in surgical cases. The patient died, and the autopsy showed about eleven feet of the intestine, measuring upward from the ileo-cæcal valve, greatly ulcerated, though not perforated. It seemed that within a few hours, since the marked elevation of the temperature, the intestine had become almost uniformly ulcerated that distance. On the other hand, he had seen cases with a high temperature throughout, yet, if it were not for the thermometer, one would not have known that the patient was very sick. He thought the cold bath and other antipyretic measures often produced benefit, not only in reducing the temperature but in allaying nervous symptoms. A dose of antipyrin, for instance, would frequently change the whole aspect of the case. He believed the wear and tear was lessened by the conservative use of these agents. With regard to the method of applying cold, he had been very much pleased by simply laying a wet towel, for example, over the anterior portion of the body, relying upon evaporation to reduce the temperature, rather than upon the low temperature of the water used. Cold sponging had been employed in his service recently, very considerably, generally with a reduction of the temperature by one or two degrees after each sponging. Recently he had employed antipyretic drugs very sparingly. Regarding statistics, he thought the ambulance service was a very disturbing element. Any hospital with an ambulance would be constantly receiving patients sent there by doctors outside who had given them up to die.

Replying to questions by Dr. Robinson, he said the bowel should be washed out both in diarrhœal and constipated cases, and that he had not seen the practice induce hemorrhage.

Cold Baths.—Dr. Roosevelt did not wish it to be understood that he objected to the use of cold baths. He did, however, claim that elevation of the temperature by itself was not an indication of danger, and that it was not always an indication for the use of the cold bath. And with regard to intestinal antisepsis, he believed it was possible to disinfect the stools to a certain extent by antiseptics given by the mouth, but he did not think it was rational to suppose one would in this way kill the bacteria in the mesenteries, lymphatics, etc.

The President thought that, in the United States, opinions upon the results of Brandt's method of treatment could *only* be formed through statistics, as, except in a few isolated cases, so far as he knew, it had not even been attempted. We were, however, very familiar with the expectant plan of treatment, and the mortality-rate of typhoid fever so treated was very high. A study of Brandt's statistics should lead, he thought, to one effort on the part of hospital physicians to give a thorough trial to a method of treatment which had been followed, apparently, by brilliant results. Personally, he had long wished to practically test it, and had only been prevented through the lack of a sufficiently large nursing-staff. He was quite in accord with the views expressed by Dr. Smith in regard to the efficiency of intestinal antisepsis. Such treatment had its own sphere of usefulness in typhoid fever, but not, he thought, in the form of destroying the specific poison of the disease. He would suggest a possible explanation of the fact mentioned by Dr. Peabody (viz., the failure of Erlich's test to respond during the use of intestinal antiseptics), in a chemical interference with the reaction, through the presence of such drugs in the urine in their elimination by the kidneys.

He desired to call earnest attention to a very practical point, and that was the necessity of a more thorough disinfection of typhoid as well as other infectious stools than was commonly practised.

Uppelmann had very recently published the results of a series of experiments bearing upon this point. He subjected typhoid, cholera, and dysentery stools, which previously had been demonstrated to contain the specific bacilli of these diseases, to the action of various antiseptics, viz., solutions of sulphuric acid, hydrochloric acid, acidulated corrosive sublimate (corrosive sublimate, two parts, hydrochloric acid, one-half part, water, one thousand parts); five per cent. carbolic acid, caustic lime, potash lye, thirty-five per cent., slaked lime, creolin, about fourteen per cent., and finally boiling water. After varying intervals, their influence upon the bacilli was determined. Solutions of equal parts of sulphuric acid and water, of hydrochloric acid and water of similar strength, and of acidulated corrosive sublimate, were found to be by far the most effective. Eberth's bacilli were found after subjection of typhoid stools to a five per cent. carbolic acid solution for one hour, and the creolin solution was demonstrated to be even less effective. The unacidulated corrosive sublimate solution was markedly less effective than the acidulated.

The conclusions were, that even when treated with the most potent disinfectants, typhoid fever dejections could not be considered innocuous, unless subjected to their influence from a quarter to a half hour. Demonstrations as regards the length of time necessary for thorough disinfection had hitherto been lacking.

Dr. Peabody said he had been much instructed by the discussion, more especially since much of it did not bear at all on his paper; that he had made no point whatever with regard to the danger of fever as such, or as to the necessity of employing the cold pack to prevent patients from having a temperature of 106° F. He had merely spoken of the desirability of giving the cold baths or packs with a view of never allowing the temperature to rise, because he, for one, was open to conviction by statistics. He could not understand the position of those adverse to antipyretic treatment, except as explained by the fact that they were not open to conviction by statistics. The Brandt method had been tried a great many years in Germany. Brandt himself had collected over nineteen thousand cases, and of this number a large percentage came under treatment late in the disease; nor did they have a fair chance at the treatment, since it was carried out by persons who had not themselves faith in it, and consequently often did not apply it as it should be applied. Yet the mortality in this number was under eight per cent.

Brandt had collected another series of five thousand cases in which the method had been carried out by those who had faith in it, and here the mortality had been under four per cent. The speaker thought it ill became us, even if we were native Americans, and our patients were of American birth—although he must admit that many of his, or their parents, were foreign born—to disbelieve that a method which gave a mortality of less than four per cent. possessed no advantages over the fatal absence of method which prevailed here.

Whether the bacilli in the intestine were destroyed by antiseptics was a question which had not occurred to him at all. He had simply tried the antiseptics with a view of producing as nearly as possible an aseptic condition in the intestinal canal, and it seemed to him that to a certain extent that could be done. It might be that the antiseptics did get down to the chief lesion; it might be they did not. It might be that the results were merely a coincidence. It might be that they made the site of chief lesion a less desirable breeding-place for the typhoid bacilli. He did not believe for a moment that they chased the bacilli up to every hiding-place in the spleen and elsewhere.

As to the effect of cold sponging in reducing the temperature, he had almost uniformly failed of any satisfactory effects from it. He had tried it in three hospitals, under three different sets of nurses, and over a period of ten years, but he had not usually succeeded in causing anything like a *material* reduction of the temperature by it. It did cause it to fall occasionally, but as a rule it did not materially diminish it.

The Ambulance System.—As to the ambulance system, it was a disturbing factor here which they had not in Ger-

many. There was no question in his mind that the average case reached the German hospitals for treatment in a better condition than those which entered the New York hospitals. Brandt's method was in pretty general use in the German army at present. It had been tried thoroughly only in the second corps, and the difference in the rate of mortality between that corps and other corps of the army was marked.

Dr. Roosevelt: What is the proportion of cases of typhoid fever in each instance?

Dr. Peabody: I have not had access to the figures. They are not quoted in Professor Wood's book. But it is stated very explicitly that the mortality-rate was very much lower in the second army corps than in any other, and there is no reason to suppose, *a priori*, that there was a smaller number of cases in one than in the other in proportion to the number of men.

Even those gentlemen who object to the antipyretic treatment, or any systematic treatment, and advocate what they call the rational, or what I call the irrational, symptomatic treatment, tell us that "in appropriate cases" they believe in giving baths; that in "appropriate cases" they believe in giving antipyretic drugs. Will they not tell us what constitutes appropriate cases? I claim that the *average case* is an appropriate case for the cold bath, if given early enough. It seems to me the time has come when, in dealing with this disease in large numbers, you have to formulate your ideas and say what is the desirable thing to do in the average case; for there is no question that there is an average case, cases of average severity, which will stand about a given amount of antipyretic treatment, and will require about a given amount of stimulants per diem. It seems to me that to leave it in this vague way, and say that *in appropriate cases* they would do so and so, is simply to say that they themselves, from their own point of view, are solely to judge when these certain kinds of treatment are to be considered justifiable, and that usually the antipyretic plan is not to be followed.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, October 9, 1889.

William P. Northrup, M.D., President, in the Chair.

Hemorrhage in the Right Ventricle.—Dr. Eugene Hodenpyl presented a specimen showing "Hemorrhage into the Right Ventricle." The brain was removed from the body of a middle-aged man, who fell while walking in the street, and by the time the ambulance reached him he was unconscious. At the autopsy the speaker found a blood-clot in the right lateral ventricle, while the left lateral and the third and fourth ventricles were distended with a bloody fluid. The blood-vessels at the base of the brain were normal, and there was neither heart nor kidney disease.

Calcification of the Mitral Valve.—A second specimen shown was one of "Calcification of the Mitral Valve." The heart was removed from the body of a young man who had been in hospital under treatment for cardiac disease. He died suddenly, and at the autopsy, in addition to adherent pericardium, there was found an enormous calcification of the mitral valve, occasioning very marked stenosis.

Carcinoma of Male Mamma.—A third specimen was presented, of "Carcinoma of the Male Mamma." The tumor was removed by Dr. Hartley, from a man seventy-three years of age, who had noticed the presence of the growth for several years. The axillary glands were also removed. The tumor was about one-half by two inches in size. The patient made a good recovery, and is well at the present time. The axillary glands showed no lesions except hyperplasia.

Dr. Prudden asked if there was anything peculiar in the structure of the new-growth last presented.

Dr. Hodenpyl said that there was not. It was an ordinary alveolar carcinoma.

The President asked whether there was any history in the case of valvular disease. The stenosis was so great that one would suppose the symptoms must have been very marked.

Dr. Hodenpyl replied that the presence of a mitral lesion had been diagnosticated, but the history contained nothing of special interest.

Improvements in Accessory Apparatus.—Dr. G. C. Freeborn demonstrated some "Improvements in Accessory Apparatus." The first was a modification by Arnold of the clamp in Thomas' microtome, as a result of which the level of the specimen could be adjusted with much greater accuracy.

The second was an iris diaphragm for use with the Abbé condenser. By means of this diaphragm the amount of light admitted could be regulated with the greatest ease by simply turning a milled head, and it could be very gradually increased or diminished, instead of being changed suddenly as in the old style of diaphragms with a series of holes.

Dr. Prudden remarked that the special advantage of the diaphragm was that it was all in nearly the same plane, and it was on this account much better than the ordinary conical iris diaphragm.

Dr. Messenger asked whether the improvement could be applied to any microscope having an Abbé condenser.

Dr. Freeborn said that it could, with some slight modifications, be attached to any instrument. In reply to a question as to its durability, he said that he had had the diaphragm a short time only and could not therefore say how long it would last.

Dr. J. S. Ely said that he had had one in use for a considerable time, and he thought that with care it was very durable.

Dr. H. M. Biggs presented a microscope slide showing "Weigert's New Stain for Neuroglia Tissue." The formula, he understood, had been published very recently, but he had not seen the details of the preparation of the stain.

Encysted Trichinæ.—Dr. Frank Ferguson presented a microscope slide showing "Encysted Trichinæ." A boy, aged six years, was taken to the Long Island College Hospital, four years ago, for the treatment of a lump in the lumbar region. Incision revealed only muscular and fibrous tissues. A small fragment was taken from the edge of the wound and examined microscopically when numerous trichinæ were seen in each section. Each parasite was rolled up within a hyaline capsule. The muscular tissue was generally destroyed, and replaced by fibrous tissue rich in inflammatory corpuscles. The boy was taken away from the hospital, by his parents, before any history could be obtained.

Echinococcus Cyst of Liver.—Another microscope slide showed an "Echinococcus Cyst of the Liver." The entire cyst had been excised, and the section showed vast numbers of echinococci and hooklets. The tissue adjacent to the cyst was inflamed.

Hypertrophic Cirrhosis of Liver.—Dr. Ferguson then presented specimens showing hypertrophic cirrhosis of the liver, and chronic diffuse nephritis, removed from the body of a man, thirty-eight years of age, a merchant by occupation, and addicted to the rather free use of alcoholic liquors. He had had rheumatism twelve years ago, but gave no history of syphilitic or malarial infection. Three weeks before admission to hospital he noticed that his skin was growing yellow, and he suffered from anorexia and nausea. He complained of constant thirst, but had no pain and no itching although the jaundice became very pronounced. The area of hepatic dulness was very greatly enlarged, extending vertically from the fifth rib to within one inch of the anterior superior spine of the ilium, and laterally almost to the umbilicus. The urine was red in color, but clear, alkaline, sp. gr. 1.012, contained a trace of albumin, hyaline casts, and much bile

pigment. He died in about two weeks after admission to the hospital, the liver having in the meanwhile decreased about two inches in its vertical diameter.

At the autopsy the liver was found to weigh 3,800 grammes, was deeply bile-stained, and contained a large amount of new fibrous tissue. The kidneys were enlarged, with indistinct markings; the pyramids were of a green color, while the cortex was yellowish. The spleen was enlarged, measuring $10\frac{1}{2} \times 6 \times 2\frac{1}{2}$ inches, was dark in color and firm in consistency, and scattered throughout its substance were numerous small nodules with cheesy centres. The common bile-duct was filled with mucus, and to this fact the speaker was inclined to attribute the very marked jaundice present.

The Society then went into executive session.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DISCUSSION AT THE MEDICAL SOCIETY OF LONDON ON THE DIAGNOSIS AND TREATMENT OF ANEURISM OF THE AORTA.

LONDON, December 21, 1889.

An important discussion on the subject of aortic aneurism commenced last week at the Medical Society of London, and has occupied the last two meetings of the society. The subject was introduced at the society's meeting, on Monday week, by Dr. Douglas Powell. He observed that, although the anatomical description of aneurism still included the fusiform and sacculated varieties, yet, clinically, all the features of aortic aneurism were grouped about the sacculated form, and, in regard to clinical signs and treatment, the fusiform variety merged into the form of heart disease, with which it was associated, and to treat it seriously as aneurism was to damage the prospects of the patient. The essential phenomena of the (clinically) true or sacculated aneurism were: 1, those of pressure-tumor signs; 2, those indicative that the tumor was a vessel tumor—a diverticulum from the vessel. To attach primary importance to the signs of arterial disease or disturbance without sufficient inquiry for those of tumor, was to invite error in diagnosis. A systolic murmur, when heard over a localized area remote from the heart, was of value in diagnosis, but in about half the cases of aneurism which presented themselves no murmur was present, and in some of the remainder the murmur heard was by no means the most important sign present. A diastolic murmur was of great diagnostic value, for it supplied distinct evidence of intra-arterial disease, and if it were associated with the pressure signs of tumor the aneurismal nature of that tumor was almost demonstrated. Thrill was a rare sign in true aneurism—a common one in spurious aneurism and in simple dilatation of the aorta. Dr. Powell remarked that the pressure signs of aneurism (as affecting the parietes, viscera, nerves, air-tubes, œsophagus, and vessels) were common to aneurismal and other tumors, but aneurismal pressure symptoms exhibited more inconstancy than those of solid growths. Among other diagnostic signs he would especially mention a systolic jog often appreciable to the ear through the medium of a rigid stethoscope, and, what was of greater importance, the diastolic shock sound in many cases could be similarly appreciated, and when well marked was absolutely diagnostic of aneurism. The laryngoscope aided in diagnosis, but the sphygmograph was of little use except as a recording instrument. Tufnell's method of treatment was of value when it could be carried out well, and especially in cases of abdominal aneurism and of sacs pressing deeply upon vital parts; also in congested aneurism when a venesection might sometimes be employed first with advantage. He condemned the wire and galvano-puncture treatment of aneurism as causing clotting of the wrong sort and in the wrong place, that is, in the centre rather than from the circumference of the aneurism; in certain cases, however, severe symptoms had been relieved by them. Possibly, in external sacs, Wooldridge's extract of lecithin might (with great caution) be injected. In conclusion he proposed the following questions, viz.: 1. Was fusiform aneurism to be regarded and clinically treated as aneurism? 2. What was the relative importance of pressure signs and auscultatory phenomena in the diagnosis of aneurism? 3. What was the diagnostic value of the diastolic "shock" sound? 4. Was it only heard in aortic cases affecting the arch? 5. Should the Tufnell treatment be employed continuously or intermittently? 6. Should iodide of potassium be given in association with the Tufnell treatment? 7. Was any information forthcoming as to the value of the fatty diet in aneurism? 8. What prospect was there of utilizing the coagulating powers of lecithin? 9. What was the value of ligature in the treatment of thoracic aneurism? 10. What was the value of the galvano-puncture and iron-wire treatment?

Dr. Broadbent said that he agreed with Dr. Powell that pressure signs were more important in diagnostic purposes, with this qualification, that the pressure signs depended very much upon the situation of the aneurism. Even a large aneurism of the ascending aorta might produce but little pressure upon neighboring parts, owing to its natural mobility. He sometimes alluded to this form as the aneurism of physical signs, while aneurism of the arch proper, or of the descending part, was rather an aneurism of symptoms. A murmur was rather the exception than the rule. One of the most valuable signs was the diastolic shock, either audible or perceptible to the hand. Fusiform aneurism was not amenable to any treatment, though we might lower the intra-arterial pressure and enjoin rest if otherwise necessary, though not with the idea of promoting a cure. In the other form of aneurism his experience with iodide of potassium was that it produced striking effects in promoting consolidation within the sac. He believed that it acted virtually in the same way as the Tufnell treatment, viz., by draining off the fluid by the kidney and so inspissating the blood. The condition of the patient would not, as a rule, permit of large doses of iodide being given while carrying out the Tufnell treatment. Iodide did most good in cases where there was a large sac with a small mouth. He concurred with Dr. Powell's views as to the use of iron wire. He related a case of left subclavian aneurism in which consolidation had been twice effected by means of galvano-puncture, but on both occasions the clot subsequently broke down; the aneurism was ultimately cured by applying a shot-bag. He only resorted to bleeding when there was pain, but the relief was then very striking. Dr. Sibson's plan of treatment by ergot unquestionably lessened the size of the tumor; this was not due to any specific action on muscular fibre in the sac-walls, since he had never been able to discover any there.

Dr. Ord said that in a certain number of cases of aneurism of the thoracic aorta, the first indications were from the circulation, and he insisted on the diagnostic value of local signs, such as pulsation, murmur, thrill, shock, dulness, undue pulsation, etc.; pressure symptoms completed the diagnosis. There was a liability to error in cases where the lung was withdrawn from the front of the vessels, giving rise to pulsation and thrill; also in cases where a tumor intervened between the aorta and chest-wall. He thought the diastolic shock could be heard as well with a flexible as with a solid stethoscope. The diagnosis of abdominal aneurism was often very difficult. With reference to treatment, he had found Tufnell's method very beneficial, but he generally associated it with iodide of potassium, whether there was a history of syphilis or not. He confirmed what Dr. Broadbent had said as to the ergot treatment, and especially called attention to the relief obtained in cases exhibiting pressure symptoms by the administration of ergot. He did not think galvano puncture necessarily gave rise to consolidation *en masse*.

Dr. Bristowe remarked that he was himself somewhat of a pessimist as to treatment, as he thought that drugs afforded at most a passing relief. Post-mortem experience seemed to point to the fact that the permanently cured cases, that was, those in which the sac was thoroughly filled with clot, were cases in which aneurism had not been suspected during life, and in which the patient had been bedridden and dying for weeks from something else. He admitted that this was rather in favor of the Tufnell treatment, since the effect was to bring about a similar condition. He had no faith in treatment by wire, by galvano-puncture, or by iodide of potassium. Patients with aneurism were benefited by rest, diet, and generally by measures which reduced the intra-arterial blood-pressure; but he thought it was open to question whether it was worth while rendering these patients useless members of society for the sake of a problematical prolongation of life for a few weeks or months. He thought it was, on the whole, preferable to allow them to carry on their usual avocations, even if they died a little sooner, though this did not necessarily follow. He alluded to the cases of Dr. Murchison and Dr. Hilton Fagge, both of whom, though they suspected they were suffering from aneurism, continued to work till the last. A patient of his own had continued at work for the last three years, with occasional treatment when the symptoms were severe, and he urged that the patients were happier thus than if kept in bed all the time.

The debate was resumed at the last meeting of the society and brought to a conclusion. In resuming the discussion, the President (Dr. Theodore Williams) congratulated Dr. Powell on the practical character of his propositions, and especially on his attaching more importance to the pressure phenomena than to the cardio-vascular signs in the diagnosis of aneurism. He remarked that fusiform and saccular aneurisms sometimes coexisted in the same patient. He had never heard the diastolic shock sound, except in cases of aortic aneurism, but it was not always to be detected in these. Murmurs were as often absent as present. The relative importance of auscultatory phenomena and pressure signs depended principally on the portion of the arch involved. Aneurism of the first portion of the arch usually presented some physical signs in the shape of pulsation, dulness, shock, and murmur, and it was generally with this form that cases of aortic regurgitant disease with retracted lung were confused. He thought, however, that the position of the heart, the presence or absence of cardiac hypertrophy, and the results of measuring the two sides of the chest, were generally distinguishing features. In many cases of aneurism of the transverse and descending portions of the arch the evidence of auscultation was often wanting, and that of pressure signs most important, and the variations of pressure from changes in the size of the vascular swelling often proved of assistance in the diagnosis. Dr. Williams referred to a case of lympho-sarcomatous tumor in the mediastinum which gave rise to symptoms similar to those of aneurism, and also to a case in which enlarged syphilitic glands produced similar symptoms. He observed that the presence of markedly tubular breathing above one or both scapulæ was one of the most valuable signs in obscure cases, but no sign or symptom could be absolutely relied on. He had obtained excellent results from the iodide of potassium treatment, while restricting the patient's liquids, and limiting his exertions (without keeping him in bed) by confining him to one floor. He thought this was sufficient for most cases of aneurism, but consolidation sometimes took place under very opposite conditions, as he had witnessed in the case of a shoemaker suffering from aneurism of the ascending aorta (apparently pointing in the second right space), but in whom the tumor consolidated sufficiently to withstand a blow from the hand of the patient, though the latter had continued to pursue his heavy labors at the last.

Dr. Quain recalled the case of Liston, the diagnosis of whose case had baffled the most eminent authorities of his time. With regard to treatment, he could recall many cases in which iodide had saved life, or at least rendered it tolerable. It was important to notice even slight symptoms, and he alluded to a case in which the presence of very slight stridor had alone saved him from giving an unguardedly favorable prognosis in the case of a man who died shortly afterward from rupture of an aortic aneurism.

Dr. Semon urged the importance of making a laryngoscopic examination in every case of suspected aneurism, and (referring to his theory that the adductors of the cords had a proclivity to become involved in functional affections, while the abductors were more likely to be affected in cases of progressive organic disease) maintained that the discovery of the paralysis of an abductor was of the utmost importance to the diagnosis.

Dr. De Havilland Hall mentioned cases showing the difficulty of distinguishing between pulsating empyema and aneurism, and insisted upon the diagnostic importance of the steady downward progress in malignant growth simulating aneurism, the progress in cases of aneurism being more fluctuating. He preferred aconite to digitalis when a cardiac depressant was indicated.

Dr. Mitchell Bruce urged a thorough and systematic examination of every patient suspected of aneurism, especially by means of the simpler methods of physical examination, and said that the neglect to observe the patient closely before passing on to auscultation was one of the reasons for the affection escaping notice.

Dr. Kingston Fowler said he associated a diastolic murmur rather with aortic regurgitation than with aneurism. He thought that one cause of aneurism being overlooked was, that sufficient importance was not attached to the symptom pain. He was of opinion that the prognosis —so far as duration of life was concerned—was not so unfavorable as it was generally supposed to be.

Dr. Seymour Taylor pointed out that in small aneurisms death most frequently resulted from bursting, whereas in large aneurisms the cause of death was pressure.

Drs. Maguire and Ewart gave the history of some cases exhibited by them.

Dr. Douglas Powell then replied, and explained that, with regard to fusiform aneurism, he did not mean that it called for no treatment, but that its treatment was not that of aneurism proper. He agreed as to the necessity of a careful choice of the cases to be submitted to the Tufnell treatment. He was sceptical as to the use of ergot, and said twenty-minim doses were not likely to have much effect on the circulation. A certain proportion of cases would be unsuccessful, whatever was done.

ANTISEPTICS AND THE COUNTRY DOCTOR.

To the Editor of the Medical Record.

Sir: In the issue of your valuable publication of December 28, 1889, appears a correspondence from Dr. F. W. Van Dyke, of Grant's Pass, Ore., in which is predicated a vast amount of knowledge based upon a limited individual experience. His personal experience in the use of antiseptic measures is sufficient evidence to him that the leading minds of the profession are chasing phantoms; that the most advanced teachers and surgeons of our large cities are following a "popular craze," the most "trivial operations being made occult and mysterious and burdened down by elaborate antisepsis."

It would seem necessary to offer an apology for asking valuable space in the Record in which to reply to such statements. In denouncing antiseptics as valueless, and even dangerous and harmful, he would have it understood that he is voicing the sentiments of country doctors in general, which should not go unchallenged.

It seems strange that one who has been a "constant reader of the Medical Record for over thirteen years," should not have learned from it that surgery has been

revolutionized within that time by antiseptics. He confesses to have found much in the RECORD "well calculated to amuse if not to instruct the country practitioner," and the inference is that he has been more amused than instructed during the last thirteen years.

In obstetrics we are told that the "great guns of the profession in cities harass and torture their patients with antiseptic injections, antiseptic pads, etc." The curette is unqualifiedly condemned as an instrument of "great danger"—death not being unheard of following its use.

Possibly those of us who use the douche, and exercise strict antiseptic precautions, might have the same success without them that the doctor claims for himself; but if a case of puerperal sepsis were to develop in a case where we had neglected these precautions, I am sure we would feel responsible for the result. Not every woman delivered in pre-antiseptic times had puerperal fever, neither would they now if all precautions were abandoned; but if figures do not lie, there is much less of it since the introduction of antiseptics. If the doctor is willing to believe that the "great guns" in the large cities are not wholly given to misrepresenting and rendering facts "occult and mysterious," perhaps the statistical showing of maternity hospitals, before and since the advent of antiseptics, would prove instructive reading.

As to the use of the curette, modern men who are capable of using it as it should be used, and who have seen the immediate beneficial results follow its use that could have been obtained in no other way, will hardly be frightened by the doctor's warning. They know that about the only danger attending its skilful use is the danger of infection.

Of general surgery he says: "Who shall ever know the number of victims that have been slain in the large cities, in hospital and private practice, on the altar of this Moloch of antisepsis." . . . . "In surgery I have never had reason to feel dissatisfied with my results." It is indeed difficult to account for such a statement from one who has been a constant reader of the leading medical journal of the country for thirteen years, in which have been recorded the giant strides of modern surgery! I wish the doctor would inform us just how, where, and by whom this great human sacrifice is being made. A glance at the hospital records again will dispel this delusion at once.

In his breast extirpations, amputations, etc., he sometimes used antiseptic solutions and sometimes simply hot water, and is compelled to say that he could see no difference in the results. I am prepared to believe this: I once knew a reputable practitioner to purchase some antiseptic gauze. Without attending to the necessary details, he used the gauze in dressing wounds, and then, because suppuration followed, he condemned the whole thing as nonsense. Hot water may be aseptic, and if a wound is aseptic and can be *kept so*, the results will equal those of the typical antiseptic dressing. The use of the antiseptic dressing is to keep the wound aseptic. Solutions and dressings are only a part of the programme, and while there is nothing "occult or mysterious" about it, it certainly does require great care, skill, and experience to obtain ideal results. Morris ("How We Treat Wounds To-day") says, the man who clears a stream at a bound is in a very different attitude from the man who jumps *almost over it*. To practise modern surgery successfully one must master the principles and then carry them out religiously.

Now, I would like to ask Dr. Van Dyke, candidly, how many times he has obtained primary union after amputation of an extremity? I would like to know if, when operating, he does so with a rational expectation of definite results?

Believers in antiseptics do, and if they fail, know where to look for the cause.

One of the most striking examples of the difference between the old and the new surgery is afforded in cases of osteo-myelitis. By the old method, the diseased bone and marrow are removed and the great cavity left to fill in by granulation, taking many months, often, for its accomplishment. The modern surgeon, by exercising great care and skill, may, by utilizing Schade's method or Senn's implantation of aseptic bone-chips, accomplish a better result in a few weeks. Here he must clear the stream at a bound, or walk around it the old-fashioned way, as there is absolutely no half-way ground.

In the face of these brilliant achievements, and many others that go to make modern surgery what it is, the man who lifts his voice against it must expect to be classed as a "back number." I will say, in closing, that it is indeed refreshing to see an article against antiseptics in which the Lawson Tait "chestnut" is not offered as a "clincher." Respectfully,

C. W. OVIATT, M.D.

OSHKOSH, WIS., January 5, 1890.

MEDICAL CIVIL SERVICE EXAMINATIONS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I do not believe that any controversy between Dr. Robert H. M. Dawbarn and myself will be of any interest either to yourself or the readers of your journal. Dr. Dawbarn's grievance as to his candidacy some years ago for a medical position has no interest for me, and his strictures upon the methods of conducting Civil Service examinations, being simply his opinions as against those of gentlemen who have given much time and thought to these matters, and whose reputation, character, and knowledge are unimpeachable, are not much more interesting.

But Dr. Dawbarn's charge that a candidate came to this office and procured a set of questions, took them home, and answered them there at his leisure, being a plain and palpable violation of law, if true, deserves the fullest punishment of the law.

This charge, it appears, is made by Dr. Dawbarn, not upon any knowledge he has upon the subject, but upon the mere say-so of a candidate who is now in Europe. When he returns, Dr. Dawbarn may depend upon it that the charge will be proved or retracted.

I have been connected with the Civil Service of this city since the first day of April, 1889. I have endeavored to treat every candidate, whether professional or lay, with courtesy and fairness, and I would be glad to hear of any case since that time where any candidate has been dealt with in any other way.

The editor of THE MEDICAL RECORD, or any physician, will be welcome to any examination of the system, working, and records of this office at any time, whether he may have a grievance or not.

Respectfully,

G. K. ACKERMAN,
Secretary.

NEW YORK CITY CIVIL SERVICE BOARDS, COOPER UNION,
NEW YORK, January 13, 1890.

PROFESSOR M. ALLEN STARR AND REFLEX NEUROSES.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I find in your issue of January 4th an interesting article by Professor M. Allen Starr, on "The Relation Between Peripheral Irritation and Nervous Phenomena, with Special Reference to Eye-strain," and no doubt all of your readers have perused it with unusual care, because the subject of eye-strain has recently furnished the material for an uncommon discussion. Those of us who have had no special training in neurology, naturally turn for information to the writings of those who have made a special study of that branch of medicine; so I have turned to this communication of Dr. Starr in the hope that I might obtain a better insight into the relation between peripheral irritation and nervous phenomena, but

I confess to some confusion of thought after reading Section 5, which you will permit me to quote.

"5. Are such nervous manifestations characteristic? It has been a matter of dispute whether so-called reflex disturbances are identical with serious nervous diseases—such, for example, as hysteria, chorea, and epilepsy. When any one of these three diseases is studied, it becomes evident that a very wide difference is observed in the symptoms of patients suffering from the same affections. The varieties of epileptic attacks are innumerable. The distribution and severity of choreic movements is very various. The forms of hysteria cannot be recorded. To affirm, therefore, that nervous manifestations do or do not belong to one or the other of these diseases by studying the phenomena alone would be impossible. But each of these diseases in turn has a typical course and a general character. And it seems to me that in their course—in their mode and period of appearance, in the frequency of the occurrence of symptoms, in the variation in relation to influences acting upon the patient—the nervous manifestations arising from peripheral irritation are characteristic. So that they need not be identified with the symptoms of these diseases.

"I have already alluded to the difference between true insanity, true epilepsy, and reflex neuroses. In regard to chorea, it seems to me that in true chorea the onset of the motions is more rapid, their situation more definite (general or unilateral, rarely local), the history of infection or fright more decided, and the accompanying anæmia and cardiac complications more uniform than in any of the forms of reflex neurosis which simulate it. It is also natural to believe that reflex cases readily become chronic unless the cause is removed, and do not yield to arsenical treatment, while in true chorea the influence of this treatment is usually evident by the time physiological effects are produced, and relapses rather than chronicity are the rule. Out of 120 cases of chorea of which I have records, but 4 have been unaffected by arsenic and have become chronic.

"It seems to me, therefore, that the nervous manifestations arising from peripheral irritation, when carefully studied, differ from ordinary neuroses in their history and therefore present features which are characteristic. Reflex neuroses should therefore not be called epilepsy and chorea, even though they may resemble these diseases."

1. From this are we to understand that reflex neuroses, epilepsy and chorea, are distinct affections which cannot be differentiated, the one from the other, by studying the nervous phenomena alone—that we must rely upon some other feature in making the diagnosis? We are told that the varieties of epileptic attacks are innumerable, the distribution and severity of choreic movements is various, that the forms of hysteria cannot be recorded, but that each of these diseases in turn has a typical course and a general character.

2. We are also informed that nervous manifestations, arising from peripheral irritation, are characteristic, in their course, mode and period of appearance, frequency of occurrence of symptoms, and in the variation in relation to influences acting upon the patient. It would seem, then, that it is impossible to correctly diagnosticate true or false epilepsy, hysteria or chorea, until we have allowed sufficient time to elapse for a careful study of the course of the disease in question, and the general character of it. So that it will be necessary to inform a patient who comes to us with all the ordinary symptoms of epilepsy, for example, that we cannot make a diagnosis of his malady until several weeks or months have elapsed for our full study of the case, and, as a consequence, we cannot prescribe an appropriate treatment.

3. "It is also natural to believe that reflex cases readily become chronic unless the cause is removed, and do not yield to arsenical treatment, while in true chorea the influence of this treatment is usually evident by the time physiological effects are produced." It follows from this that it is of extreme importance to the patient that reflex chorea should be promptly diagnosticated as such, lest the patient become a chronic sufferer. As a differential characteristic of true chorea, we are to understand that the onset of the motions is more rapid, their situation more definite, the history of infection or fright more decided, and the accompanying anæmia and cardiac complications more uniform, than in any of the forms of reflex neurosis which simulate it. It would seem, therefore, that the difference between true chorea and reflex chorea is simply one of degree, not of quality, and no attempt has been made to mark the dividing line between the two, except, possibly, the crucial test of the arsenical treatment. In true chorea the influence of the arsenical treatment is usually evident by the time the physiological effects are produced, but reflex cases do not yield to arsenical treatment. Are we to understand from this that, given a case having the symptoms of chorea, the differential diagnosis is to be made by saturating the system to the physiological limit with a compound of arsenic?

Yours very truly,

J. H. Woodward, M.D.

Burlington, Vt., January 9, 1890.

CONCERNING THE STORAGE CELL.

To the Editor of the Medical Record.

Sir: In a communication to your journal which appeared recently there is made a statement regarding the use of the storage cell or accumulator for medical work which invites criticism. It is stated in the article referred to that the storage battery is not suitable for certain classes of work because the current furnished by it is too intense.

Leaving for the moment the absurdity of the objection out of consideration, it may be remarked that most people who use electric batteries endeavor to obtain cells which possess just this particular fault in the highest possible degree. That is to say, those cells which by their construction are capable of yielding the largest currents are the ones in greatest demand. It is not that large currents are always needed in medical work; indeed, ordinarily the current does not exceed the value of two hundred and fifty milliampères, yet were it possible to construct a good primary cell which could furnish continuously a large current, such a cell would leave nothing to be desired.

There is no class of medical work for which the storage battery cannot be used. Whether large or small currents are required, it matters not, the storage cell is suitable for either. Its electro-motive force is not much greater than that of the Bunsen cell (zinc-carbon-chromic acid), and therefore, with a given number of elements, in order to produce a current of a certain intensity we have to use almost the same resistance between the poles of the storage battery as we would between the poles of a Bunsen battery. It is, consequently, altogether erroneous to say that the storage cell gives currents of too great intensity. The current from the accumulator must be regulated just as the current from a Bunsen, or a Daniell, or a Leclanché, or a chloride of silver cell is regulated; in exactly the same way.

Regarding constancy of electro-motive force, there are few, very few, primary batteries which, in this respect, can compete with the storage battery. During discharge, provided this is not effected at too high a rate, the electro motive force of a good storage cell varies but little from about two volts. It begins with this value and maintains it until the cell is nearly exhausted. Of few types of primary cells in practical use can the same thing be said. The Daniell cell has a very constant electro-motive force when properly looked after, but it requires much attention. The cell first described by Latimer Clark has also an invariable electro-motive force; it is used as a standard in scientific work, but it is not a practical element and can only be employed when in circuit with enormously high resistances. The chloride of silver cell is a practical apparatus and has an electro-motive force which remains ex-

ceedingly constant. Heretofore these cells have labored under the disadvantage of having a rather large internal resistance. As a result of recent improvements, chloride of silver cells are now made whose internal resistance has been so much reduced that currents having a value as great as 1,100 or 1,200 milliampères readily are furnished by them.

A good primary battery is to be preferred to a storage battery, because the latter is useless unless there are means at hand for charging it when it has been run down. This is the real objection to the storage battery, and it is a serious one very often; but it is absurd to say that the secondary battery is too "intense" for medical work.

G. A. Liebig, Jr., Ph.D.

Johns Hopkins University, Baltimore, Md.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 6 to January 11, 1890.

Loring, Leonard Y., Major and Surgeon. By direction of the President will report in person to Colonel Benjamin H. Grierson, Tenth Cavalry, President of the Army Retiring Board at Los Angeles, Cal. Par. 3, S. O. 6, A. G. O., January 8, 1890.

Benham, R. B., Captain and Assistant Surgeon. By direction of the Secretary of War is relieved from duty in the Department of the Platte, to take effect upon the abandonment of Fort Laramie, Wy., and will then report to the commanding officer at Madison Barracks, N. Y., for duty at that station. Par. 8, S. O. 6, A. G. O., January 8, 1890.

Maus, Louis M., Captain and Assistant Surgeon. By direction of the Secretary of War leave of absence for six months, on surgeon's certificate of disability, is granted him, with permission to go beyond sea. Par. 13, S. O. 4, A. G. O., January 6, 1890.

Walker, Freeman V., First Lieutenant and Assistant Surgeon, Jackson Barracks, La. Granted leave of absence for one month, on surgeon's certificate of disability. Par. 7, S. O. 5, Division of the Atlantic, January 7, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending January 11, 1890.

Whiting, Robert, Passed Assistant Surgeon. Detached from the Minnesota, and ordered to the Dale.

Pickrell, George McC., Assistant Surgeon. Detached from the Dale, and ordered to the Minnesota.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 11, 1890.

	Cases.	Deaths.
Typhus fever	1	0
Typhoid fever	18	7
Scarlet fever	62	9
Cerebro-spinal meningitis	4	4
Measles	62	6
Diphtheria	106	28
Small-pox	0	0
Varicella	3	0
Cholera	0	0

Incompatibility of Antipyrine and Quinine.—Dr. T. W. Martin, of this city, writes: "In The Medical Record of November 23d I read with some surprise that 'a mixture of antipyrine and quinine is also incompatible, both substances being at once precipitated from the solution.' Now, as a matter of fact, I have found the combination the most effective of any I have tried in the treatment of intermittent and remittent fevers. I think I have prescribed the mixture with success in at least half a dozen cases this summer that have resisted treatment by quinine alone."

Treatment of Herpes Zoster.—Dr. B. O. Kinnear, of this city, referring to the report of a discussion on this subject at the meeting of the American Dermatological Association, recalls some cases treated by him by means of ice over the spine, a report of which was published in the Philadelphia *Medical Times* of April 15, 1889. He also reports a case occurring in a woman, fifty-four years of age, which he saw at Bar Harbor last summer, in which he obtained immediate relief with no resulting ulceration or neuralgia. It was a case of zoster pectoralis, and promised, when first seen, to prove very troublesome, but in twenty-four hours the pain was much relieved, and several ulcers which had formed were looking healthy.

Human Milk of Low Temperature.—Dr. G. F. Inglott writes to the *British Medical Journal* that a woman came to his consulting-room stating that her child, six months old, refused since ten days ago to take her right breast. After inquiry it was found that the patient, aged thirty-five years, and strong in constitution, had suffered at the age of twenty years from severe hysterical fits of convulsive and non-convulsive form, which lasted for a long time. Her menses commenced at the age of fifteen, recurred regularly every month and were rather profuse, lasting about eight days each time. She had seven children, of whom six were alive, and of good constitution. On examining the milk the writer was highly surprised in finding it as cold as iced water. He was much interested in the case, and, after careful consideration, came to the conclusion that it was a nervous phenomenon due to the hysterical state of the woman. He prescribed, therefore, one drachm of bromide of potassium daily in a decoction of cinchona-bark, and a mixture with camphor and valerian. After ten days' treatment the milk acquired its normal temperature, and the child began to suck the breast again.

An Injection in Cancer of the Uterus.—Dr. Chéron recommends the following injection in cases of uterine cancer, with a fetid discharge: ℞. Salicylate of sodium, 20 parts; salicylic acid, 1 part; tincture of eucalyptus, 45 parts; distilled vinegar, 300 parts. From one to five tablespoonfuls to be added to a pint of water, and used as a douche several times a day.—*L'Union médicale*, No. 114, 1889.

Lassar's Treatment for Baldness.—*First Stage:* A strong tar soap is applied to the scalp for at least ten minutes. *Second Stage:* Removal of soap by a tepid water douche, the water to be gradually cooled, the scalp to be well dried afterward. *Third Stage:* The scalp to be shampooed with the following solution:

℞. Hydrarg. bichlorid. corrosiv. ..... gr. x.
Glycerin,
Spirit. rect. ..... āā ℥ ij.
Aq. destil. ..... ℥ v.
F. fiat solutio. S.: For ext. use.

Fourth Stage: Shampooing of head with absolute alcohol, to which half per cent. of naphthol has been added. *Fifth Stage:* The following solution to be well rubbed into the skin:

℞. Acid. salicyl. ..... gr. xxx.
Tinct. benzoic. ..... ℥ j.
Ol. ped. taur. ..... ad ℥ iij.

Graetzer found this treatment most useful and efficacious in private practice, and therefore does not hesitate to recommend it to the profession. He says that with such a powerful method of treatment in view, the present indifference of medical men with regard to the treatment of alopecy ought to be given up.

Tit for Tat.—It is asserted that the proprietor of *Tit-Bits* has promised to give $50,000 to certain hospitals in England on condition that the circulation of his journal shall average half a million copies per week during the coming year.

Female Medical Students in Scotland.—An association has recently been formed in Edinburgh, with the approval and support of some of the most eminent practitioners there, which has for its object the promotion of female medical education.

Hinc illæ Lachrymæ.—It is said that the contagion of measles resides in great part, if not chiefly, in the tears. Experiments with inoculation shows that a mild form of the disease can be so produced, and it is proposed to practise this method in epidemics of a severe type, in order to mitigate the virulence of the disease.

The War upon Cigarettes.—The South Carolina Legislature, at its last session, passed a law forbidding the sale of cigarettes to minors, and imposing a severe penalty for its infringement. The juvenile population in the Palmetto State is said to be strongly wedded to the cigarette, and its grief at the passage of the law is equalled only by the indignation of the tobacconists.

A Glimmer of Returning Reason.—According to a recent cable despatch the leader of a band of vegetarians in Berlin has separated from his fellows, and abandoned a purely vegetable diet, on the ground that it leads to atheroma and calcareous degeneration of the arteries. Dr. Alanus, for so he is called, exhibits symptoms of great promise, and we cherish hopes of his complete restoration to mental health.

Death from Drinking Arsenical Waters.—It is stated in the *Popular Science News* that there is a spring in Belgium the water of which contains seven-tenths of a grain of arsenious acid to the gallon. The water had been introduced into a large institution, and it was the unexplained death of several of the inmates that led to an investigation and the discovery of the poisonous quality of the water. La Bourboule and some other springs contain arsenic among their other ingredients, but no natural water has ever before been found which held so large and dangerous an amount as this.

A Rare Exhibition of Gratitude.—It is so seldom that a physician receives any public recognition of his services, that when such a thing does happen it is worthy of mention. Stanley has shown that he has gratitude among his other virtues, for the despatches from him contain many references to the devotion and skill of the physician of his expedition, Dr. Parkes, and he generously attributes to him a large part of the credit for the success of the undertaking.

An Epidemic of Raphania, a convulsive disease due to chronic ergotism, is reported in the Vjatka Government in Russia. The number of persons attacked amounts to 683, of whom 34 have died up to the present. The Kazan Medical Society has deputed Dr. Kondoratski to make a special study of the disease.

Cruelty to the Insane.—A commission recently appointed by the Governor of Pennsylvania to investigate charges made against the keeper of the Du Page County Poorhouse has reported that the insane inmates suffered great cruelties at the hands of the attendants.

The American Academy of Medicine wants more members, in order to widen its influence and to hasten the time when the object of its foundation and existence shall have been attained. All physicians possessing the necessary qualifications, who believe in the desirability of a good preliminary education and in the power of organization to effect reforms, should respond to the invitation of the Academy and enter its ranks prepared to fight in the cause of education.

Dengue Fever is reported to be prevalent in Greece, over two thousand of the inhabitants of Athens alone having been laid up with it during a single week. It is possible that the supposed dengue is nothing more than a form of the influenza in which the "break-bone" pains are specially prominent. Numerous cases of that sort have been seen in this city since the appearance of the epidemic.

The Pay of German Army Surgeons.—That the remuneration which the German Government has thus far bestowed upon its medical officers, writes the Berlin correspondent of the *Therapeutic Gazette*, is but a meagre one is revealed by the recent proposal to raise the salary of the general *Stabsarzt*. The salary of this gentleman—the highest medical officer of the army—amounted to but two thousand three hundred dollars. In view of his exalted office, the unavoidable obligation of representation, and the preclusion of private practice, it is to be hoped that the proposed advance in his salary will be granted.

The Marriage-rate in England has shown a remarkable falling off during the past few years, according to the reports of the Registrar-General. The statisticians seem to be baffled in their efforts to account for the decrease, as there is no war on hand and the times are not specially hard.

The Money Value of a Health Officer.—Dr. Baker, of the Michigan State Board of Health, estimates the value of an efficient health officer to any community at the rate of nearly $1.50 per capita per annum, in the matter of life-saving alone, and leaving out of consideration the amount of sickness prevented. He shows by a comparison of statistics that the lives of one adult and two children may be saved each year, on an average, in a community of fifteen hundred souls, through the effort of a health officer who will see to it that the recommendations of the State Board of Health are carried out. Estimating the value of an adult life to the community at $1,000, he thinks that a village of this size may well afford to have a health officer at a salary of $2,000.

Drunkenness is Increasing in Russia, according to Dr. Kovalevski, of St. Petersburg.

An Eighteenth-century Opinion of Medicine.—The opinions of a writer in the early part of the eighteenth century are quoted by the *The Hospital*, as follows: "It is a very difficult science, because the theory depends upon the understanding and the practice upon the imagination. It is full of dangers to the patient, because it is founded upon conjectures; and, according to Plato, the conjectures of physicians are very uncertain."

The Kola-nut and Cholera.—It is stated that those regions of Africa where the use of the kola-nut by the natives obtains have never been visited by cholera.

Ava-drinkers in the Sandwich Islands.—The immoderate consumption of "ava" causes a peculiar affection of the skin characterized by redness and infiltration in the epidermis. The drinkers of the beverage are usually emaciated, and the surface of the body is covered with scales, which become detached, leaving small ulcers. The lesions are not permanent, but gradually disappear when the habit is abandoned. Among the natives the ava formerly enjoyed considerable reputation as a remedy for leprosy.

Tonsorial Disinfection.—The authorities at Nordhausen, in Saxony, at the suggestion of the district medical officer, have issued an order to barbers to disinfect their brushes and other implements immediately after use, and before they are applied to the hair or beard of another customer.

Pombolano is the name of a plant found in Mexico, the root of which is said to contain a substance analogous to but more powerful than, quinine in its antiperiodic action. It has been found to cure rebellious intermittent fevers that had resisted the action of quinine.

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Original Articles.

ON THE GERMICIDAL ACTION OF BLOOD-SERUM AND OTHER BODY FLUIDS.

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The definite proof that a large number of the most important of human diseases are caused, and caused alone, by bacteria, and the vast amount of knowledge which has rapidly accumulated about them under the stimulating influences of the new technique, have been most satisfying, and have made possible many promising glimpses into the domain of prophylaxis and treatment. It is, therefore, not surprising that a large part of the current medical thought and speculation should still find abundant food in the more or less simple relationship which appears to exist between a few well-known diseases and the bacteria which cause them.

But it has already become evident that the restless impulse of research is by no means to be satisfied with these elementary phases of the etiology of disease. A large number of subsidiary, but by no means simple or unimportant, problems are urging solution.

The nature of the poison by which the bacteria produce their effects in the body, and the varying reactions of the cells in the presence of these poisons, form a series of problems which tax to the utmost the resources of both the chemist and the biologist. The question of immunity from bacterial disease, either natural or acquired, has, from the first, been a most potent stimulus to speculation and research. The various conditions of the body which evidently predispose it to the incursions of disease-producing bacteria, whether acquired by heredity, by exposure, or in any one of many possible ways, suggest most important, and as yet most obscure, fields of inquiry, both at the bedside and in the laboratory.

One of the most frequent questions which is heard, as one after another the lurking-places and wide distribution of some of the pathogenic micro-organisms are brought to light, is, Why, then, do we not all suffer or die from bacterial disease? The answer to this, often half-impatient query, is many-sided, and cannot be completely given yet.

The application of our new knowledge to clinical observations, old as the science of medicine itself, teaches us that there is in the body some sort of adjustment of forces by which, under ordinary and favoring conditions, the deleterious effects of pathogenic bacteria are neutralized or limited, and the organisms themselves disposed of.

The very occurrence of self-limiting diseases, such as typhoid fever, acute lobar pneumonia, etc., strongly suggests, if it does not prove, the existence in the body of some sort of bacteria-destroying agency. But a long series of animal experiments has definitely proven that a very considerable number of pathogenic micro organisms may be introduced into the body, to entirely disappear in a short time.

To account for the disappearance of pathogenic bacteria in the body, either in the course of an acute infectious disease, or as the result of exposures which we may sustain unharmed, several more or less plausible theories have been evolved.

That one of these which has attracted most attention, partly because it has been most ably advocated, and partly because it lends itself readily to experimental observation, is that called the theory of phagocytosis. This theory is too well known to need detailed exposition here. Suffice it to say that it postulates the taking up into their bodies and the destruction there of living micro-organisms, by certain lowly organized cells, especially the leucocytes. A large amount of very plausible experimental evidence has been adduced in favor of this theory, and a good deal of this evidence has been unconditionally accepted by medical men. Metchnikoff, the chief expounder of the theory, claims that this destruction of the life of bacteria by being taken into the bodies of certain cells—phagocytes—is the exclusive means which the organism makes use of in resisting the incursions of pathogenic bacteria. An animal whose leucocytes can successfully battle with and eat up a given species of bacteria, according to this theory, enjoys immunity from its deleterious effects.

But the doctrine of phagocytosis, at least in the scope which is claimed for it, appears to most unprejudiced observers less and less to commend itself the more the facts and observations on which it is based are critically examined and judiciously interpreted.

The series of observations on which this theory largely rests, varied and elaborated in many ways, indisputably teach this—that when micro-organisms are introduced into the body, either naturally or artificially, the phagocytes which gather about them may be found after a time to have taken more or less of the germs up into their bodies, where they show those morphological evidences of degeneration which indicate that they are dead. That this phenomenon does occur is well enough established, but that it should be interpreted as necessarily meaning that the micro-organisms are taken in the living condition into the cell bodies and there deprived of life, appears to be very doubtful indeed. That the leucocytes and other lowly organized cells are capable of taking up dead and used-up material into their bodies, and that the leucocytes are more or less constantly engaged in transporting and disposing of such material in various parts of the body as a physiological process, is well known. But the observers of phagocytosis, as applied to micro-organisms, have never shown that the bacteria which the cells unquestionably do take up into their bodies were alive when they were taken in; and unless this can be shown, no proof exists that the action of phagocytes toward bacteria is in any way different from that toward any of the other various dead material which they absorb or transport.

Résumé of Recent Observations.—Nutall[1] has recently made a series of observations with the view of determining whether, after all, the bacteria which are taken up by leucocytes under these conditions are not dead. In fact, he found, on repeating Metchnikoff's experiments with anthrax put into both cold- and warm blooded animals, that many bacilli were found inside the bodies of the leucocytes, and exhibited there the structural changes indicating death. But he found also—which obviously puts a very different light on the matter—that the bacilli which lay in the body fluids which were about the leucocytes showed, under the same conditions, the same degenerative appearances indicating death that those within the cells did. Death in the free bacilli could not have been caused by the intra-cellular

[1] Nutall: Experimente über die bacterienfeindlichen Einflüsse des thierischen Körpers. Zeitschrift fur Hygiene, Bd. iv., p. 353.

action of protoplasm, but must be due to some other agency.

Nutall found, furthermore, that the appearance of degenerated bacilli in the bodies of leucocytes went hand in hand with the degeneration of those outside; the more rapid the degeneration of the free bacilli, the more abundant were they in the leucocytes.

These observations lead directly to the conjecture that it is some agent in the fluid constituents of the blood which destroys the germs.

In order further to prove this point, and to give more exact data than is afforded by a simple microscopical observation, fresh blood was drawn from animals, rapidly coagulated by shaking with sterilized sand, and still being kept warm, was divided into small parts and inoculated with the anthrax bacilli. The number of living germs which was put into each tube was immediately accurately determined by making plate cultures. The remainder of the blood-serum was now distributed in small quantities and placed in the thermostat at about body temperature, and from time to time some of the tubes were taken out and plated, and the colonies, when grown, counted. The general result of these experiments with rabbit's blood and anthrax was that a rapid destruction of the bacilli occurred. To take an example: At first there were about 90,000 living bacilli; on standing for one hour in contact with the serum there were about 33,000, and after four hours all were dead. In some cases the bacilli were not all killed, but the number greatly reduced, and then, singularly enough, after a time the number was found to increase.

It thus appeared that the destructive agent in the blood-serum was limited in its capacity to destroy bacteria, becoming itself used up in the process. Furthermore, it was found, by another series of experiments, that the bacteria-destroying power of the blood-serum diminished with the lapse of time. Heating the serum to from 50° to 55° C. destroyed entirely the killing-power.

Nutall now tried the effect on living bacteria of fresh body fluids which contained but few leucocytes, namely, humor aqueous, and liquor pericardii, and found that in these, too, the bacilli were killed and degenerated in the same way without the presence of cells.

Finally he tried other species of bacteria than anthrax, and found that while B. subtilis was rapidly destroyed by blood-serum and B. megaterium to a considerable degree, the staphylococcus pyogenes aureus was unaffected by it.

Buchner,[1] continuing this line of study with an improved technique, was able to separate the fresh blood-serum from its cellular elements, and his experiments, while confirming the results of Nutall, brought to light many new facts about the germicidal action of fresh blood-serum.

To summarize his results: Buchner found that the fresh blood-serum of certain animals, freed from cells, had the power of rapidly killing various species of bacteria. The degree of this killing-power varies in the serum of different animals; thus it is greater in the dog than in the rabbit. Different species of bacteria vary widely in their vulnerability to the serum. Neutralizing the strongly alkaline blood-serum of the rabbit does not interfere with its bacteria-killing power; dilution with water diminishes but does not destroy it. The germicidal capacity of the fresh blood-serum is limited. Thus Buchner found that 1 c.mm. of rabbit serum would kill about 1,000 typhoid bacilli, but if more than this proportion was added the destruction was incomplete.

So far as the vulnerability of species is concerned, Buchner found that they varied greatly, some being easily killed, others quite resistant. He found that while the germicidal power of blood-serum is most marked when freshly drawn, it yet may preserve this power, in diminishing but evident degree, even for several days.

[1] Buchner: Ueber die bakterientödtende Wirkung des zellenfreien Blutserums. Centralblatt für Bacteriologie, etc., Bd. v., No. 25; Bd. vi., No. 1.

It appeared to Buchner that in all of these experiments with fresh blood-serum there are two antagonizing influences at work, namely, the nutritive power and the killing-power; and that the numerical results which we get show simply the difference between these. For blood-serum which is kept for some time, until its bacteria-killing power is lost, or which is heated for an hour to 55° C., is good bacterial food. It thus appears that when the blood-serum more or less rapidly kills off the germs, it does so because its destructive are in greater or less excess of its nutritive qualities. This was very neatly shown by adding to fresh blood-serum varying quantities of alkaline meat peptone, and testing its effects on bacteria. It was found that, when the peptone solution was present in relatively large proportion, the number of bacteria which were present in the plate after from two to five hours was very much larger than that originally sown. As the relative proportion of the peptone diminished, however, the killing-power revealed itself, and at last so far overbalanced the nutritive capacity as to sterilize the cultures.

It thus appears that the red blood-cells, as the blood disintegrates, may furnish food for the bacteria. This would explain why, in Nutall's experiments, in which the red blood-cells were mingled with the serum, after a time, if the bacteria were not all soon killed, they began to rapidly increase in number.

In order to prove this assumption, however, Buchner simply froze the blood, a process which results on thawing in a large solution of the red blood-cells. Such blood was found to have lost its bacteria-killing power. To establish the force of this experiment, Buchner proved that the freezing and thawing of corpuscle-free-blood-serum did not in the least diminish its bacteria-killing power.

That the process of coagulation itself is not responsible for the germicidal action of the blood, was shown by testing upon typhoid bacilli the effect of blood which was prevented from coagulating by the intra-venous injection of peptone in considerable quantities into the dog. It would appear that the phagocytes are not directly concerned in producing these effects of blood-serum, first, because they occur in serum which microscopically is found to contain none; second, because when the serum is carefully filtered, the filtered is equally efficient with the unfiltered serum in destroying the germs; and third, because freezing and thawing, even repeatedly, which kills the leucocytes and thus removes the possibility of an active combat with the germs, does not in the least reduce the killing-capacity of the serum.

Buchner has further shown, by experiments on blood-serum by dialysis, that this germicidal power is associated with its albuminoid constituents.

Nissen [1] has also shown, by a study of many species of pathogenic and non-pathogenic bacteria, that different species vary widely in their vulnerability to fresh blood-serum.

The enormous number of certain bacteria which can be killed by blood-serum is shown by a series of experiments, in which 3,600,000 of coccus aquatilis, by one hour of contact with serum, had been reduced to 45; while in the same period 1,200,000 of the Bacillus choleræ asiaticæ were reduced to 2,000.

It appeared from Nissen's studies, that the time of maximal killing of coccus aquatilis is from five to ten minutes; of B. choleræ asiaticæ from twenty to forty minutes; of the B. typhosus, two hours. There is a maximal number of bacteria beyond which the killing-power ceases.

Lubarsch [2] has found that, so far as anthrax bacilli are concerned, the circulating blood of rabbits and cats is not so vigorous a germicide as the extra-vascular blood. This he would explain by the consideration that living bacteria in considerable numbers, thrown into the blood,

[1] Nissen: Zur Kentniss der bacterienvernichtenden Eigenschaft des Blutes. Zeits. f. Hygiene, Bd. vi., p. 487.

[2] Lubarsch: Ueber die Bakterienvernichtenden Eigenschaften des Blutes, etc. Centralblatt f. Bakteriologie, etc., Bd. vi., Nos. 18, 19, 20.

disappear from this in a very short time and collect in the liver, spleen, and bone-marrow. But as in these situations red blood-cells are destroyed, he argues that the nutritive qualities of the blood here become so marked as to mask the destructive process, as Buchner had shown to be the case in frozen and thawed blood.

Lubarsch also calls attention to the fact that the blood-serum of those animals which, either naturally or artificially, are comparatively little susceptible to the action of the anthrax bacillus, is no more potent to kill this germ outside of the body than is the serum of animals which readily succumb to its effects.

While so much as has been here epitomized appears to have been pretty well established as to the germicidal action of the blood-serum of animals—and this has also been shown to be true of human serum—it has seemed to the writer important to ascertain whether some of the body fluids which appear in transudations, and are more or less directly associated with life processes of the tissues, possess similar germ-killing capacities.

Original Experimental Studies.—I have selected for my experiments two well-defined species of pathogenic bacteria, namely, the bacillus typhosus and the staphylococcus pyogenes aureus. The typhoid bacillus was obtained from the spleen of a person dead of typhoid fever, and it had been under cultivation in the laboratory for several months. Fresh cultures were made for each set of experiments, so that a vigorous culture of from three to five days old was always employed. The staphylococcus pyogenes aureus (S. p. a.) was obtained from a suppurating wound, had been but a few weeks under cultivation, and cultures from two to four days old were always used.

The technique was essentialiy that indicated above in the review of the work on blood-serum by the German observers.

The fluids whose germicidal powers were to be tested were obtained from the living body under strict antiseptic precautions, and in each case a portion of the fluid was planted in nutrient gelatine and found to be absolutely sterile.

Each specimen of fluid, as soon as obtained, was distributed in about 2 c.c. amounts in a series of sterilized cotton-plugged test-tubes preparatory to inoculation.

The inoculating material was prepared by mixing intimately a very small portion of the pure culture of the bacteria (typhoid bacilli or S. p. a.) with a few c.c. of sterilized distilled water, or ¾ per cent. salt solution, in a sterilized test-tube. Approximately equal quantities of this bacterial emulsion were taken out by means of a fine platinum wire-loop, and mixed with the portion of fluid to be tested in each one of the tubes.

The number of living bacteria which were thus introduced into the separate portions of fluid was determined by planting a loopful of the same bacterial emulsion in nutrient gelatine and pouring the mixture into a sterilized, shallow, covered glass dish (Petri's plate), and when the bacteria thus planted were grown, counting the colonies. In order to insure greater accuracy, triplicate plates and counts were made for the determination of this norm.

Now, at intervals after the inoculation, the entire amount of the fluid in two of the inoculated tubes was plated, and the colonies when grown counted. Duplicates were in all cases made for the sake of greater accuracy.

It is evident that the comparison of the number of colonies in the original or normal plates with the number of colonies in the plates made at various intervals after the inoculation of the fluids to be tested, will, allowing for the experimental error which in such work as this is considerable, give the approximate germicidal capacity, if any exists, of the fluids to be tested upon the particular cultures employed. It is true that in such experiments as these we assume that the failure of the planted bacteria to grow and form colonies is to be taken as an indication of the death of the germs. While this inference may not with all classes of germicides be justified, within the limits of these experiments it would seem to me to hold good.

The body fluids tested in this way were ascitic fluids drawn from the abdomen of a case of cirrhosis of the liver, and from a case of chronic Bright's disease;[1] simple hydrocele fluids, one from a young, one from an old man; the amniotic fluid from the pig; and fresh normal human urine.

Before these experiments were begun, I repeated the experiments of the German observers with blood-serum, testing the effects on the typhoid bacillus and the S. p. a., of the fresh serum of the dog, rabbit, beef, pig, and sheep. The results of these preliminary experiments with blood-serum need not be given in detail here, as they were simply confirmatory of the experiments reviewed above, showing that in varying degrees the fresh blood-serum of these animals is inimical to the life of the typhoid bacillus, but not at all, or in but slight degree, to that of S. p. a.

Returning now to the effects of fresh ascitic and hydrocele fluids on the typhoid bacillus and S. p. a., the results may be best shown in tabular form. While these experiments were all done in duplicate, the numbers were so closely alike in the two sets that I have, for the saving of space, given only the averages. I have also given only a small proportion of the experiments performed, these being entirely typical of the whole series.

TABLE I.—*Experiments on the Effects of Fresh Ascitic and Hydrocele Fluid on the Typhoid Bacillus.*

	Ascitic Fluid.		Hydrocele Fluid.				
No. of experiment	I.	II.	I.	II.	III.	IV.	V.
Number of bacilli planted	5,764	13,725	200	2,360	1,620	1,280*	2,880†
Hours of exposure of the bacilli to the fluids: 1	....	.....	31	7	11	178	...
2	305	4,666	23	...	....	.....	2,010
3	638	.....	...	5	10	208	....
4	....	2,775	...	....	....	.....	2,839
5	...	.....	.	14	5	166	....
7	127	.	...	...	....	.....	...
19	....	975	...	....	....	.....	2,100
24	107	.....	0	16	4	8	2,253

* Five days old. † Heated one hour to 60° C.

These experiments show, first: That freshly drawn ascitic fluid from a case of cirrhosis of the liver, and from a case of chronic Bright's disease, and from two cases of simple hydrocele, were capable of promptly killing large numbers of typhoid bacilli, or at least rendering them permanently incapable of growth on nutrient gelatine. Second: That this destructive capacity may be retained to a considerable degree for several days. Third: That heating the fresh transudate to 60° C. for one hour practically destroys the destructive power.

But it may be justly urged that we do not know what part of the destructive action, which is evident in these experiments, may be accounted for by what may be called the natural or spontaneous death of the typhoid bacilli when placed in innutritious fluids, such, for example, as distilled water or salt solution.

This element is accounted for by the results of the experiments shown in Table II.

TABLE II.—*Experiments on the Effects of Distilled Water and Salt Solution on the Typhoid Bacillus.*

	Water.					Three-fourths per cent. Salt Solution
No. of experiment.	I.	II.	III.	IV.	V.	I.
Number of bacilli planted	2,020	732	1,982	24,979	2,360	2,020
Hours of exposure of the bacilli to the fluids: 2	2,562	957	2,875	25,713	..	1,921
3	...	...	.....	..	2,100	...
4	1,576	858	3,577	31,459	....	2,348
5	...	...	....	.. ..	1,590	...
7	2,135	...	....	...	...	2,286
19	...	...	...	...	...	...
24	1,658	238	1,811	28,456	994	1,539

These experiments show that while the effect of water on the typhoid bacilli planted in it is in general to reduce

[1] I am indebted for these fresh fluids to Drs. Otis, Johnson, Wiggins, and Painter.

the number of viable individuals considerably within twenty-four hours, still the number may be increased. This increase in the number of bacilli planted is often most evident within the first two or three hours, a period which in the transudate-fluid experiments is marked by the greatest diminution in numbers.

It is thus evident that the destruction of the typhoid bacillus by fresh ascitic and hydrocele fluids is not dependent upon the simple physical character of the medium, but upon some element in its constitution which stands in close relationship with the vitality of the organism from which it was derived.

The following table shows the results of another series of experiments on different forms of fresh body fluids:

TABLE III.—*Experiments on the Effects of Fresh Liquor Amnii of the Pig, and Fresh Human Urine on the Typhoid Bacillus.*

	Liquor Amnii, Pig.		Urine, Man.	
No. of experiment	I.	II.	I.	II.
Number of bacilli planted	54,432	52,236	6,759	350
Hours of exposure of the bacilli to the fluids: 1	91,500	99,096	8,385	320
2	.....	.....	....	295
3	178,200	190,840	9,641	...
5	... ...	.....	....	...
6	216,000	201,240	8,897	...
24	Innumerable.	Innumerable.	3,000	77

These experiments show, that not all fresh body fluids are capable of rapidly destroying the life of the typhoid bacillus. For while the effect of fresh human urine is much the same as that of pure water, the liquor amnii of the pig acts as an excellent food, in which the bacilli proliferate with such rapidity as to entirely mask any destructive agency which the fluid may possess.

The effects of fresh transudation fluids on the staphylococcus pyogenes aureus is shown in Table IV.

TABLE IV.—*Experiments on the Effects of Fresh Ascitic and Hydrocele Fluids on the Staphylococcus pyogenes aureus.*

	Ascitic Fluid.		Hydrocele Fluid.	
No. of experiment	I.	II.	I.	II.
Number of cocci planted	19,764	9,607	6,322	2,130
Hours of exposure of the cocci to the fluids: 1	.....	.....	3,510	....
2	13,999	.....	2,702	....
3	.....	13,725	....	2,580
4	.....	17,568	....	....
5	.....	.....	....	3,090
7	6,656	7,686	....	....
24	7,411	.....	1,354	2,314

These experiments show that upon the staphylococcus pyogenes aureus, fresh ascitic and hydrocele fluids exert no marked destructive effect, the gradual diminution in number observable, after some hours of exposure, being no more marked than when these bacteria are planted in pure water, or ¾ per cent. salt solution.

Summary.—It would thus appear, as the general result of all this recent work that fresh blood-serum possesses, though in different degrees in different animals, and in varying potency with the different bacterial species, a most marked germicidal power; that a similar germicidal power resides in fresh human non-inflammatory transudations. That this power is not directly associated with the formed elements of the blood or transudates, but is in some way dependent upon their albuminoid constituents. It would furthermore appear that this singular, and apparently most significant, capacity of the body fluids is intimately associated with that complex condition which we call life.

Remarks.—The significance of these new discoveries would seem to be very great and far-reaching, not only in explaining many obscure phenomena of the acute infectious diseases, and in their bearing upon the doctrine of immunity, but also in calling back the attention of therapeutical adventurers from germicidal warfare with certain forms of infectious disease, to what appears to be a natural defence of the organism against bacterial invaders, namely, a healthy condition of the blood.

But our knowledge on this subject is too fragmentary and too little digested to permit us to do more at present than follow the general indications of its lead. More facts is what we need now.

While it is evident that the theory of phagocytosis, as applied to the infectious diseases, is by no means of the significance which has been assumed, it is equally obvious that to base a comprehensive theory of immunity on this remarkable germicidal power of some of the fresh body fluids would be premature.

The fact that one of the most abundant of the pathogenic bacteria—the staphylococcus pyogenes aureus—appears to be quite invulnerable to this destructive agency, would indicate the necessity of cautious inferences.

We seem in these studies to be straying somewhat beyond the limits of those fields of morphological and biological observation in which such vastly important discoveries have been made within the last decade, and to be treading the somewhat uncertain ground of physiological chemistry, and that, too, in a part of its domain in which the crust over chaos is not yet very solid.

Proud of our already long list of well-defined bacterial species; consciously masters of the morphology of many forms of bacterial disease; well on the way to an intelligent and efficient prophylaxis; and glorying in the possession of ptomaines so definite as to enter at our will into the composition of tangible and even formulatable metallic salts; it is a little humiliating, though doubtless salutary, to find ourselves face to face with a series of phenomena which seem to lie at the very basis of the knowledge of the acute infectious diseases, and yet able to say only—they are the result of the vital forces—vitality, life. It is fortunate that we have these words and phrases, however, which conceal so much and express so little, since, under their cover, we may take breath for the assault on another of Nature's tantalizing and well-fortified secrets.

December 31, 1889.

THE EFFICACY OF WORMWOOD (ARTEMISIA ABSINTHIUM) IN CERTAIN CONDITIONS OF THE CEREBROSPINAL AXIS.

BY J. LEONARD CORNING, M.D.,

NEW YORK.

IN the quest for the new, it too often happens that we forget the advantages of the old. This is especially true of remedies. By this statement I do not wish to imply that the medical literature of the day is not sufficiently retrospective; for, indeed, as everybody knows, a goodly section of it is saturated with platitudes—a fact which induced a distinguished physician to observe, not so very long ago, that nine tenths of such literary work had better never been done at all. The point, however, which I desire to make is, that not only do we forget the virtues of old remedies, but that we frequently fail to detect new and appropriate spheres of usefulness for those favorites of former years, all too prematurely discarded.

Without philosophizing on this point further, I will state at once that in my judgment absinthe is one of those useful drugs which, forgotten by the profession, is thrice appreciated in the wine-shop. Nobody questions the harm wrought by wormwood in its rôle of servant to human debauchery; the statistics on this point are overwhelming. But so are they as regards opium, hashish, coca, alcohol, and many other drugs; and yet we do not hesitate to employ these substances for curative purposes, and, indeed, it is hard to say how we should get on without them.

The popular abuse of a drug is, therefore, clearly no bar to its employment medically. This, at all events, is the view held by the vast majority of the profession, and

very properly so held. I shall offer, then, no apology for what I am about to say regarding this excellent, though greatly abused, medicament.

About all that I have been able to learn from previous publications regarding the medicinal virtues of this plant is as follows:[1] I find that it has been employed in the treatment of epilepsy, chorea, and digestive disorders; while, before the introduction of Peruvian bark, it was also used in intermittent fever. Regarding its supposed anthelmintic qualities, the statements of authors are less definite. As a discutient and antiseptic, however, the drug seems to have met with some favor. Whatever difference of opinion may exist as to the efficacy of wormwood when employed in the conditions previously described, there can be no doubt regarding its remarkably tonic influence upon the brain, and especially upon those higher mechanisms of the organ which are so intimately associated with psychical function.

Possessing, as it does, these tonic properties in such full measure, it is matter of surprise to me that absinthe is not extensively employed in neurological medicine. In the treatment of those exhaustive conditions of the cerebro-spinal axis commonly known as "neurasthenia" it is certainly a valuable remedy—valuable, because it dissipates the hebetude, depression, and indefinable sensations of malaise from which such patients periodically suffer, in a few moments. I have used absinthe in such cases, from time to time, during the last few years, with no little satisfaction. In two cases of typical cerebral exhaustion recently referred to me for treatment by my eminent friend Dr. David Webster, of New York, I had recourse to moderate doses of absinthe on several occasions with the happiest results. Both of these patients were business men in middle life; both suffered from periodic attacks of depression, morbid apprehension, and acute irritability; and both had been advised to give up business. The recommendation to give up business, so commonly made in cases of this sort, I regard as unfortunate; because the mind of the patient, being no longer occupied with the affairs of the external world, is given over to a flood of morbid introspection, which serves to increase the apprehension and depression of the patient, and, in a word, aggravates the whole psychological complexion of the case. Of course, when the exhaustion is so extreme as to render mental and physical exertion positively painful, there is nothing for it but to tell the patient to stop work. When, on the other hand, he can get about and exert his mind to a moderate degree without evoking painful sensations or mental confusion, I think it is better to let him do so. His depression, his irritability, his hypochondriasis, his general malaise, must be looked to by the medical attendant. And it is just here that absinthe serves an excellent purpose; for, by a conservative exhibition of the drug we may modify, and, indeed, entirely obliterate, for some time at least, the distressing psychical features of the case. Moreover, this may be done without inducing more than a slight feeling of exhilaration—an effect which, even according to the most rigid interpretation, is not comparable with intoxication.

This power of promptly relieving the most exigent symptoms—those of a mental character—is of vast importance, since it enables one to render the condition of the patient comparatively comfortable; while remedies potent, though lethargic in their action, may be employed for the permanent eradication of the disease.

I have been thus explicit, not because of any intention of giving an exposition of all the features of the treatment applicable in neurasthenic cases, but because of a desire to indicate with precision the part which absinthe is capable of taking in the management of such cases. This I trust I have succeeded in doing.

Depressive Action of the Essential Oil of Absinthe on Cutaneous Sensibility.—Every medical man is probably aware of the toxic properties of the essential oil of wormwood, which in large doses evokes convulsions, involuntary evacuations, unconsciousness, and even death. There are, however, other properties exhibited by this oil, no mention of which, so far as I know, is made in the books. One of the most significant of these attributes is its ability to obtund the sensibility of the cutaneous nerves. Indeed, so pronounced is this effect that when the oil is injected into the skin—below the epidermis or into the superior strata of the chorion—a condition is speedily set up amounting practically to anæsthesia. The insensibility may be furthermore enhanced by keeping the oil in place by the aid of appropriate devices.[1] These facts were known to me long ago—at least three years since—the experiments which I then undertook being conducted with long, fine, hypodermic needles, so that an accurate placing of the oil in the skin was accomplished without difficulty and almost without pain.

General Analgesic Properties of the Drug. — The reputed effect of wormwood upon temperature, conjoined with what I had ascertained regarding its action upon peripheral sensibility, aroused in my mind the suspicion that the drug might possibly possess more general analgesic properties. Accordingly I tried it in a variety of painful conditions, and more particularly in headache, spinal irritation, and muscular rheumatism. In the two first-named conditions it was undoubtedly beneficial; at least this was true of a number of cases in which relief from pain was obtained in from twenty minutes to half an hour. In the cases of muscular pain, and more especially in lumbago, the effects obtainable were less striking. As a matter of curiosity, I may add that I have seen the pains and depression of that protean distemper called "la grippe" greatly relieved by absinthe. These general analgesic properties of wormwood are not as pronounced as those of phenacetine or antipyrine; still, they are sufficiently apparent to render the drug of some value in the management of the milder degrees of pain.

When I first began these investigations the body known as "absinthin" excited my curiosity. I went to considerable trouble and expense in having the drug imported, through Merck, of Darmstadt; but I must confess that, so far as I was able to ascertain, the preparation is practically worthless. As regards the best form of administering absinthe, I would state that in my judgment preference is to be given to those extracts and wines which have been in the market for so many years. It is true that to these preparations various substances have been added; but these latter, in so far as any considerable physiological effect is concerned, possess a purely collateral importance, which in no way militates against the free action of the wormwood.

On the other hand, the preparations of the Pharmacopœia are less satisfactory.

53 West Thirty-eighth Street, January 1, 1890.

[1] For a more explicit account of wormwood, see the Dispensatory of the United States of America, page 2 (sixteenth edition), 1888.

[1] This factor has been exhaustively treated of in former writings of the author.

Swallowing a Tooth-brush.—Dr. Hashimoto relates the case of a woman, forty-nine years of age, who was in the habit of titillating the epiglottis and posterior part of the pharynx with a tooth-brush, which seems to have had a holder easily detached. On one of these occasions she swallowed the brush. About ten months after this occurrence an abscess formed over the region of the stomach, which burst, and allowed the pointed end of the brush to protrude. It seems that the attendant removed about a centimetre of the foreign body and allowed the wound to heal up, with still an uncomfortable feeling about the stomach. About thirteen years after another swelling and abscess formed in the region of the umbilicus, where the foreign body could be felt. After the abscess discharged, a fistula was formed, through which the brush was extracted, leaving an opening direct into the stomach, from which was emitted odorless gas, while the secretions were acid. In five weeks the fistula opening healed up.—*Med. Press.*

MUMMIFICATION: ONE OF THE RESULTS OF RETENTION OF A DEAD FŒTUS IN UTERO.[1]

By JOHN S. ELY, M.D.,
NEW YORK.

Since careful study began to be accorded to the various phenomena of abortion, death of the fœtus has been regarded the most frequent factor in its causation. So constant is the association of fœtal death and expulsion of the contents of the uterus, that in early times it was customary to look upon the retention of a dead fœtus as evidence of witchcraft, or of Divine displeasure; and superstitious fear prevented the careful investigation of such cases when they occurred. For about three centuries, however, allusions to the remarkable changes in the fœtus consequent upon its retention in utero are to be found in the literature of the subject and have excited the curiosity of medical men the world over. Lithopædia, being the most remarkable of these changed products of conception, were naturally the first to receive description. The study of the process of mummification is of comparatively recent date.

The specimens which I have to present this evening are fœtuses of about four months growth, which were retained in utero for some time after their death, and which have undergone mummification in varying degrees.

I. The first occurred in the practice of Dr. James J. Healy, of Newburyport, Mass., by whom it has been presented to the Museum of the College of Physicians and Surgeons (No. 867). The mother, a primipara, passed through her pregnancy to term without untoward symptoms. During labor digital examination disclosed a hard, sharp body, which, to use Dr. Healy's words, "felt like an oyster-shell coming down with the head of a full-grown and well-developed child, the convexity of the head fitting the concavity of the shell, which proved to be the head of the fœtus." The body of the fœtus is so flat that it was designated by Dr. Healy a "pancake fœtus." The head is flattened from side to side, concave on the right, convex on the left, and is turned so as to look almost directly backward. The trunk is flattened obliquely antero-posteriorly, and is at the same time twisted, so that the flattened pelvis lies in a plane almost vertical to the plane of the thorax. The posterior surface of the trunk is concave, the anterior surface convex. The left arm is drawn backward, the right lies across the front of the trunk. The lower extremities are flat, bent at the knees and ankles, and are twisted. The umbilical cord is very small, but not twisted. The placenta is unfortunately not preserved. The above drawing gives some idea of the distortion of this fœtus. I am inclined to attribute the extreme flattening in this case to compression of the mummified fœtus by the living twin in the genital passage during delivery.

Outline Drawing of "Pancake Fœtus." Front View.

II. The second specimen is in the collection recently donated by St. Luke's Hospital to the College of Physicians and Surgeons (No. 868). It is unaccompanied by any history, but from its appearance I am led to believe the conception in this case to have been single, not twin, as in the first case. Mummification has not progressed as far, and the body is not much flattened. The cord is very much twisted. Examination of the placenta shows it to be very fatty, and the label on the jar informs us that this was attributable to syphilis.

III. The third example of mummified fœtus is from the Museum of the College of Physicians and Surgeons (No. 358). It resembles the others closely in its shrivelled appearance, but shows in addition the deformity of double hare-lip. The thread-like umbilical cord twists around the neck of the fœtus.

The curious shrivelled appearance of these mummified fœtuses cannot fail to excite curiosity as to the nature and mode of production of such a remarkable change. While its complete explanation may be impossible with our present knowledge, still a number of more or less suggestive facts which seem to bear upon it, are at our disposal, and to some of them I shall ask your attention for a few moments.

It is clear that there can be no mummification of the fœtus unless it die and be retained without undergoing putrefaction, and it is hardly to be supposed that such pronounced change in the physical characters of the tissues should occur without concomitant alteration in their chemical composition.

It is quite unnecessary for our purposes to enter into lengthy discussion of the causes of fœtal death—these have received much attention in the various text-books of obstetrics. A word, however, regarding the time at which the death of the fœtus most frequently occurs may not be out of place, for the similarity in age of the specimens presented can hardly have escaped notice, and may have suggested the question as to whether the age at which fœtal death occurs may not have a determining influence on the production of mummification. I am inclined to answer this question in the negative, for although mummification is more frequent in fœtuses of about four months' growth, so is fœtal death, as is shown by careful statistics of abortion, more than half of all abortions occurring during the fourth month. What the influences causing death of the fœtus during the fourth month are it is difficult to say. The growth of the embryo at that time is very rapid, its dependence for nutrition has recently come to be entirely upon the placenta, which during the third month replaces the chorionic villi, and, furthermore, inherited constitutional vices have had time to develop and produce their destructive effects. There is every reason to believe the incubation period of disease to be the same, whether its victim be still in utero or older, and one would hardly expect the effects of a disease so insidious as syphilis (the cause *par excellence* of fœtal death) till after the lapse of several months.

But why should the uterus at times retain a dead fœtus when it is usually so prompt in its expulsion? That much obscurity should surround the solution of this problem is not remarkable, considering our absolute inability to offer any satisfactory explanation of the remarkable regularity of the onset of labor at the expiration of ten lunar months of pregnancy. But are we not apt to overestimate the rarity of retention of what may be called foreign bodies in the cavity of the uterus? We not infrequently see retention without expulsive effort of portions of after-birth, of moles of various kinds and of polypi and submucous fibroids. This suggests ability on the part of the uterus to accustom itself to gradual changes in its contents, even though they may be abnormal. We should accordingly expect to have retention of a dead fœtus more often in cases where the causes of its death had worked insidiously, gradually bringing about its destruction. Among such may be mentioned disease of the placental vessels, faulty development of the fœtus, debilitated state of the mother's health, etc., causes acting to disturb the nutrition of the fœtus. Again it should be remembered that many of these processes insidiously affecting the nutrition of the child are apt to lower the vitality of the mother and render her more liable to uterine inertia.

In twin conceptions the retention of a dead fœtus until the completed development of the living child appears to be one of those conservative efforts so frequent throughout the animal kingdom, and may be regarded as a survival

[1] Paper read at the meeting of the New York Pathological Society, November 13, 1889.

of one of the necessary efforts on the part of our remote ancestors (whose conceptions were habitually multiple) at preservation of the race, so important a factor in its evolution. The importance of this conservative process is strikingly brought out by comparison of the statistics, for mummification is shown to be about three times as frequent in twin pregnancies as in single.

In connection with the discussion of this problem of the retention of a dead fœtus it is interesting to note the frequent observation of a strong tendency on the part of the uterus to discharge its mummified contents at term, even though the conception may have been single. This is illustrated by numerous cases on record, perhaps the most interesting of which is reported by Skjelderup,[1] who observed twice in the same woman retention of a dead fœtus and its discharge at term in both instances.

Long before the discovery of the true nature of the process of putrefaction, non-rupture of the fœtal membranes was held to be essential to the preservation of the dead fœtus, which was then thought to be due to the pickling of the fœtus in the liquor amnii. While not denying the possible influence of immersion in the liquor amnii upon the chemical changes incident to the process of mummification, we are now less inclined to attribute the simple preservation of the fœtus to any action of the liquor amnii than to the exclusion of the putrefactive bacteria which is accomplished by the continuity of the membranes.

And this leads us to inquire into the nature of the chemical changes occurring as a part of the process of mummification. I regret to say that but little is known regarding this subject, and, so far as I am able to find, no analysis of the flesh of a human mummified fœtus has been made. In 1877, however, Forster[2] conducted a careful analysis of the flesh of a mummified calf, which had been retained in utero for about four months after its death, and compared the results obtained with those of the analysis of normal calf's muscle. The accompanying table represents his results:

	Fresh mummified calf's muscle in percentages.	Fresh normal calf's muscle in percentages.
Water	75.3	78.2
Solids	24.7	21.8
Proteids	21.3	20.5
Fats	1.43	1.3
Ash	0.75	1.46

From this it would appear that, contrary to our expectation, there is but very slight variation from the normal in the content of water and solids, that, of the latter, the [illegible] in relative

suddenness of attacks. In Vienna, three-fourths of the population were sick at one time, on which account the name Blitz catarrh (lightning catarrh) was given; while in Delft, during one epidemic, five thousand died. Domestic animals, *e.g.*, dogs, cats, and horses, have always been more or less susceptible to this disease, and various English authorities state that an epidemic is always preceded by a catarrhal fever among horses.

The different epidemics, although resembling one another generally, have, nevertheless, differed so much in some of their chief symptoms, that it might perhaps be interesting to review them hurriedly since 1510, that we may see how certain particular symptoms in previous epidemics compare with the present one.

We will not mention the catarrhal symptoms, as they occurred in all epidemics to a more or less marked extent. Thus we find in the annals of influenza, epidemic of 1510, pain over eye, delirium, gastrodynia, often syncope from seventh to eleventh day, diarrhœa and sweating on the decline; 1557, fever of "double tertian" type, severe pain in side; 1580, epistaxis, vigilance or somnolency, giddiness resembling intoxication, parotid swellings, bilious vomitings; 1658, epistaxis, much cephalalgia, hæmoptysis, dysentery, and followed a few months later by meningitis, etc.; 1675, those of pleuritic fever, bilious

[1] Read before the Medical Society of the Alumni of Charity Hospital, New York, January 14, 1890.

the various other proteid constituents of the muscle were found to be unaltered.

Thus we arrive at the end of our discussion of the subject without being able to draw any very definite conclusion. We have seen that there are reasons for believing the death of the fœtus in cases of mummification to occur gradually, as the result, in most cases, of disturbance of the fœtal nutrition; we have seen that the very insidiousness of the process causing the death of the fœtus in all probability enables the uterus to accommodate itself to the foreign body in its cavity; we have seen the tendency of the uterus to discharge its contents at term persist even in cases where the life of the fœtus has been long extinct; and, finally, we have been led to believe that certain chemical changes, at present little understood, lie at the bottom of the decided change in appearance of the mummified fœtus.

PRESENTATION OF PORTRAITS AT THE MIDDLETON GOLDSMITH LECTURE, ACADEMY OF MEDICINE, JANUARY 15, 1890.

By WILLIAM P. NORTHRUP, M.D.,

NEW YORK.

MR. PRESIDENT, MEMBERS OF THE PATHOLOGICAL SOCIETY AND OF THE PROFESSION: In the early forties, three signs were hung upon three house-fronts of Broadway, in the vicinity of Spring Street.

The sign upon the corner-house read, Dr. L. A. Sayre; three doors below was M. Goldsmith, M.D.; and directly across the street was Dr. John C. Peters.

During a week's visit to Boston, Dr. Goldsmith visited, with a friend, the Society for Medical Improvement, a society combining pathological with clinical studies. On his return home he hastened across the street to Dr. Peters' office, to suggest the formation of such a society in New York.

Meantime young Sayre, having gained favor with the political coroner, who was also an undertaker and had a shop near by, was, with the consent of the coroner, cutting away at all cadavers labelled "drunk," or "drowned," or "stabbed," that found their way to the city's dead-house, located at that time on the corner of Chambers and Centre Streets.

Dr. Peters, the third of this company of young physicians, fresh from study under Rokitansky, was busy translating an early volume of his teacher's work on pathology.

Into such inflammable material then, fell the Boston spark. "Let us form such a society in New York," said Goldsmith. "Make it pathology alone," answered Peters and Sayre. A few older men were consulted on the advisability of starting such a society, but they only wagged their heads and said the like had been tried before.

While our three young men are busy working up their scheme for the first meeting, let us take a hasty look at the medical field about them. In the first place, the City of New York ended at Fourteenth Street. Broadway was paved only as far as Tenth Street. The wealthy families lived about Bowling Green and along Broadway, upon Bond and Bleecker Streets, Park Place, and St. John's Park.

Our young men touched their hats with great deference to the great medical lights, Dr. John A. Swett and Dr. H. D. Bulkley.

Alonzo Clark and Cammann were busy at auscultatory percussion. Willard Parker was a young professor of surgery in the only medical college in New York; Dr. Francis was lecturing on general practice; Dr. Frank Johnson was the great light of the New York Hospital.

Joseph Mather Smith lectured on theory and practice; Delafield on obstetrics, and John Romeyn Beck on materia medica.

In surgery there were great names sounding in the ears of our young men: John Kearney Rogers, Valentine Mott,

John C. Cheeseman, Richard K. Hoffmann, Gurdon Buck, John Watson.

At this time New York had one college, one hospital, and three dispensaries.

Our three young physicians no doubt came, quite late, from Sayre's office, on several evenings, and smelled very strong of tobacco-smoke—but, at any rate, the plans were soon completed for the first meeting, the constitution was drawn up, by-laws written out in full; and the morning mail brought to some of their friends a note asking them to assemble at Sayre's office at four o'clock in the following afternoon, on "special business."

John A. Swett had given the secret away when he said such societies die by the time the constitution and by-laws are framed and the offices distributed.

Our young men had caught the cue, and when Dr. Sayre, at four o'clock, reached out his hand to welcome the first arrivals to the meeting, the elaborate documents, quite complete, protruded from his inner coat pocket. Goldsmith was there, helping entertain the men as they arrived, appearing, no doubt, to wonder what it was all about. At last, bringing up the rear, came Peters, with a most innocent look upon his face, carrying *two huge, mysterious-looking pails*.

The meeting was called to order, and the announcement made that a pathological society was to be formed; a committee was appointed to draft constitution and by-laws, and directed to repair immediately to the rear room. Upon this committee were Sayre and Goldsmith.

The committee estimated that about three cigar-lengths of time would be a fair allowance for a rough draft of such papers, and that, having told the newest stories, they would easily pass the time, and report in good form.

When they finally gathered up their crisp, neatly copied documents, flung open the sliding doors, and sallied forth, expecting to find themselves quite important in the meeting, what did they find? Dr. Peters, still digging among the contents of the two pails, and the whole company gathered about him, scrutinizing his beautiful types of "rum livers," "rum stomachs," perforated intestines, tuberculous lungs, cancerous tumors, etc.

It was getting dark, and lights were brought in. Still Peters dug, and the company stayed. The meeting was prolonged by questions and discussions, and no end of examination of the many wonderful pathological specimens.

As for the report of the committee, it found no opportunity for a hearing for several hours.

Such was the origin of the earliest Pathological Society, and such the success of its first meeting.

It is said that Dr. Swett presided at one meeting, and never came again. The first elected president was Willard Parker.

The meeting just described occurred on June 14, 1844, and there were present: Drs. Goldsmith, Peters, Sayre, Parker, W. C. Roberts, G. A. Sabine, James Crane, Philip Young, Israel Moses, and Macnevin; ten in number.

Dr. Goldsmith is described as "a tall man, considerably over six feet, muscular, and exceeding well proportioned; quick, easy, and graceful, with a handsome, pleasant face; neat, even showy in dress."

To all here present, the physical characteristics of Drs. Sayre and Peters are familiar; and it is not difficult for us to picture to our minds the founders of this Society surprising their friends with "special business" at *four* o'clock: the quiet, enthusiastic, earnest Dr. Peters; the towering, handsome Dr. Goldsmith; the roaring, irresistible Lewis A. Sayre!!

These men said we will organize a society, and forthwith it was started and at once became a success.

We have been looking back forty five years. To-night the old landmarks are mostly gone; the city has overflowed its insular limits; successive groups of great medical and surgical lights have arisen and passed away; medical colleges have grown up, dispensaries multiplied, and New York no longer admits that Philadelphia is the one great medical centre of America.

What has become of our three young enthusiasts in pathological work, the founders of this Society?

A star marks the name of one, upon our membership list. This lectureship—the bequest—memorializes for all time the enduring interest which possessed the mind of Middleton Goldsmith.

Two members survive. We need not ask what marks their interest. Dr. Peters has been for many years—I dare not venture to say how many—twenty, perhaps, or more—editor of the Society's "Transactions." No one here can possibly be made to understand the hours and weeks of time he has put upon that work. For years he has been upon the Committee of Admissions and Ethics. During the term of my service as President, it has been a pleasure and an inspiration to have before me a man who appeared at the earliest gatherings of this Society, has been identified with its workings from that time to the present, who has looked upon and who came in contact with the great men of our profession in a past generation.

To-night, in his son's home on Long Island, too feeble to be present with us, he watches the hours as they pass, and when the time for adjournment of this meeting shall have struck he will say, "This is the first I have ever missed."

Dr. Sayre can remember no early experiences more vividly than those in the early days of the Pathological Society, and can rouse himself from feebleness no more effectually than when he recalls that first meeting and the incidents of the constitution and by-laws. He hoped to meet us here to-night—but he is a cripple, is enfeebled by sickness, and at last broken beneath a sudden and heavy sorrow.

Mr. President, the three portraits before you are gifts from Dr. Sayre, Dr. Peters, and the daughters of Middleton Goldsmith, tokens expressing to you approval and pride in the success and records of the Society of which you are the chief officer. They enjoin upon you the furthering of the good work as best fits and becomes the times and advancement of pathological investigations.

To the Society they stand, and shall stand, as a pleasant greeting, and mutely bid you accept the best wishes of the donors, and God-speed.

In the name of Lewis A. Sayre, John C. Peters, and the daughters of Middleton Goldsmith, I formally present these three portraits, severally, to the corporate body, the New York Pathological Society, to be held as property by its trustees forever.

[illegible] the uterus at times retain a dead fœtus when it is usually so prompt in its expulsion? That much obscurity should surround the solution of this problem is not remarkable, considering our absolute inability to offer any satisfactory explanation of the remarkable regularity of the onset of labor at the expiration of ten lunar months of pregnancy. But are we not apt to overestimate the rarity of retention of what may be called foreign bodies in the cavity of the uterus? We not infrequently see retention without expulsive effort of portions of after-birth, of moles of various kinds and of polypi and submucous fibroids. This suggests ability on the part of the uterus to accustom itself to gradual changes in its contents, even though they may be abnormal. We should accordingly expect to have retention of a dead fœtus more often in cases where the causes of its death had worked insidiously, gradually bringing about its destruction. Among such may be mentioned disease of the placental vessels, faulty development of the fœtus, debilitated state of the mother's health, etc., causes acting to disturb the nutrition of the fœtus. Again it should be remembered that many of these processes insidiously affecting the nutrition of the child are apt to lower the vitality of the mother and render her more liable to uterine inertia.

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SOME FEATURES OF THE PREVAILING EPIDEMIC OF INFLUENZA.[1]

By RAMON GUITÉRAS, M.D.,

INSPECTOR HEALTH DEPARTMENT, CITY OF NEW YORK.

Before dwelling especially on particular features of the present epidemic, it would be well, perhaps, to go back a little and consider what the disease in question really is.

It is an epidemic, or, perhaps better, a pandemic which sweeps rapidly over the globe in the direction generally of from east to west, being equally prevalent in all climates, and among all classes of society. It is usually characterized by inflammation of the mucous membrane lining the respiratory tract, in connection with various systemic disturbances.

This disease has more than a score of names, according to the countries through which it passes, the most common of which are influenza and *La Grippe*. Influenza, the generally accepted term, is a name given by the Italian savants of the seventeenth century, because they thought it due to the influence of the stars.

The name, La Grippe, is said to come from the Polish word Crypka, meaning hoarse, but most probably comes from the French word "gripper," to seize, from the suddenness of the attack. It is, however, at present date, with its translation "Grip," by far the most popular one with the masses.

The term, however, which is the most suitable and comprehensive, although it is less used, is epidemic catarrhal fever.

There are many other synonyms for this disease, dependent mainly on its symptoms and locality, such as rheuma epidemicum, cephalalgia contagiosa, Pipp (Pip), Schafhusten (sheep-cough), Huhnerweh (hen-sickness), Blitz catarrh, chinese catarrh, Russian disease, Italian fever, Spanish catarrh, etc.

Brief History.—Epidemics of influenza date back before the Christian era, an outbreak having occurred in the Athenian army in Sicily, B.C. 415. Epidemics after this began to occur at irregular intervals, sweeping over Europe, generally in the direction from east to west, of which no exact and complete records have been kept up to the year 1510, when it prevailed in the British Isles to an alarming extent, and quite an accurate account of the epidemic was written. Various other well-recorded outbreaks followed in the years from 1557 to 1879, about twenty in all, besides many others of minor importance. These varied in severity, in symptoms, in number, and suddenness of attacks. In Vienna, three-fourths of the population were sick at one time, on which account the name Blitz catarrh (lightning catarrh) was given; while in Delft, during one epidemic, five thousand died. Domestic animals, *e.g.*, dogs, cats, and horses, have always been more or less susceptible to this disease, and various English authorities state that an epidemic is always preceded by a catarrhal fever among horses.

The different epidemics, although resembling one another generally, have, nevertheless, differed so much in some of their chief symptoms, that it might perhaps be interesting to review them hurriedly since 1510, that we may see how certain particular symptoms in previous epidemics compare with the present one.

We will not mention the catarrhal symptoms, as they occurred in all epidemics to a more or less marked extent. Thus we find in the annals of influenza, epidemic of 1510, pain over eye, delirium, gastrodynia, often syncope from seventh to eleventh day, diarrhœa and sweating on the decline; 1557, fever of "double tertian" type, severe pain in side; 1580, epistaxis, vigilance or somnolency, giddiness resembling intoxication, parotid swellings, bilious vomitings; 1658, epistaxis, much cephalalgia, hæmoptysis, dysentery, and followed a few months later by meningitis, etc.; 1675, those of pleuritic fever, bilious derangement, etc.; 1710, severe cough, quick pulse, headache; 1729, loss of appetite, rheumatic pains; 1732, bloody discharges from nose, lungs, bowels, occasional swelling of parotid and salivary glands and testes; 1737, biliousness, affection of salivary glands, rheumatism, toothache, hemicrania; 1743, lassitude, shivering, pains in head, back, and limbs, on decline diarrhœa, pustules, and dysentery; 1758, sensation of tracheal excoriation, profuse epistaxis; 1762, headaches, bad cough, pain under sternum, biliousness, crisis by perspiration; 1767, loss of appetite, lassitude, fever; 1775, giddiness, headache, nausea, intestinal disturbances, pain in loins, sides, cramps, prurigo, erysipelas, pustular eruption; 1782, languor, loss of smell and taste, sense of contusion and soreness of limbs and cheeks, pain in chest and sides, delirium; 1803, biliousness and headache, epistaxis, often interchanging with scarlatina or superseding it, low fever subsequent; 1831, headache, loss of taste, soreness behind the sternum; 1837, 1848, and 1879, quite typical.

Etiology.—Predisposing influences, none. People are attacked without distinction of age, sex, occupation, or social standing. Previous or present illness affords no protection. One attack renders no immunity from another. Overcrowded, unhealthy, badly ventilated, and damp dwellings render attacks more severe, although the dwellers are no more prone to it. Influenza may occur at any season. It occurs generally in the autumn, often in the spring, and sometimes in the summer and winter. Latitude has no effect, as in the epidemic of 1837 it appeared at same time in England and Cape Town, that is, in directly opposite zones and seasons. Climate has no effect, as it occurs equally in the dampest and the dryest regions. Foul fogs seem to precede an attack. It is interesting to review the observations made during the foregoing epidemics, concerning certain meteorological signs and coincident phenomena which seemed to have had some influence over the disease; *e.g.*, in 1510, in the annals of influenza, mention is made of blood rain; swarms of locust in Serillas; of caterpillars in Germany; eruption of Hecla; a comet, earthquakes, etc; 1557, foul fogs, eruption of Ætna, comet; 1580, plague of insects and mice, flight of owls; 1675, eruption of Ætna; 1732, volcanic eruption, comet, fetid fog; 1742, comet, stinking fog.

Thus, in almost every case we see some mention of earthquakes, volcanic eruptions, plague of birds or insects, as if they had some direct bearing on the disease. There are at present two views in regard to the point of origin of the disease.

1st. That it starts from some particular but unknown point, and spreads from place to place, until it finally becomes extinct in some region, however distant from its point of origin.

2d. That it may start anywhere, and may have several different points of origin.

Influenza travels at different rates of speed. It takes from six weeks to six months to go through Europe. It generally lasts in a city from one to two months. Large cities are generally affected before villages.

Crews of ships on ocean have been known to suffer from it.

Exciting Cause, Arguments for and against Contagion.—Said not to follow the course of travel; this has not been the case in present epidemic. Closing up the house does not seem to shut out the disease; on the other hand, convents, garrisons, and prisons, which are isolated communities, so to speak, are often not affected.

Families, employees in offices and factories are often ill one after another until all have suffered; on the other hand, only one or two members of a family may be affected. At all events, the rapidity with which it spreads, and the great number who suffer from it at the same time and in the same way, certainly point to some specific poison which is carried by the air as a disseminating medium and excites the disease. This poison was supposed by many, for a long time, to be the sulphur and other matter thrown from volcanoes, which was carried

[1] Read before the Medical Society of the Alumni of Charity Hospital, New York, January 14, 1890.

about in dust-fog currents, a foul fog having been generally noticed before an epidemic, or accompanying it. In this enlightened age, however, I think that we are justified in believing that the exciting cause is a micro-organism. The question then arises, is this disease contagious or infectious, and I think that we can here say probably both. Whether this micro-organism is a telluric emanation, or whether it is the result of some organic change in lower forms of animal or vegetable life; or whether, again, it is due to some morbific principle developing directly in man or higher animal life, in which case it would be considered purely contagious, I am not prepared to say.

In case the micro-organism is developed outside of the body, as it seems most probable that it is, and is carried about in the air, the part of our economy which is first visited by it will be the mucous membrane lining the respiratory tract.

It here excites an inflammation, and probably continues to propagate. The mucous secretion would therefore be impregnated with the germs of disease, and would act as a contagious principle. At the same time, however, it is not reasonable to suppose that the germs contained in the secretions of a patient suffering from the disease are any more virulent than the original ones causing the disease. In regard to the spreading of the disease, it seems most probable that in covering a large distance, such as across an ocean, it would be much more liable to be carried by travellers, baggage, or mail, in other words, direct transportation, than by actual currents. I am a strong believer in aerial contagion, but I also think, when a disease covers a large area, that transportation is a most important factor in its propagation.

The argument that influenza has occurred in two places at the same time, as in Cape Town and London, is of no significance, inasmuch as the disease almost always starts in the East, and if there are aerial currents and transportation which would tend to bring its germs to one point, other currents might have brought them directly in the opposite direction. The question why an epidemic may break out at one time and then for years remain dormant is not an easy one to answer.

It is probable that there are cycles in which peculiar seasons recur, and that such cycles are associated with the reproduction of similar disordered conditions in the health of man. Whether or no these conditions are due to certain changes in lower animal or vegetable matter is difficult to say.

In regard to the present epidemic, we know it started near St. Petersburg in the latter part of October, and reached our shores about the middle of December, that is in about a month and a half after it started, a record which surpasses any previously made. It came directly over the regularly travelled road, which probably accounts for its rapid march.

Notwithstanding that all the bacteriologists in Europe and America are looking for the microbe, none has as yet been found which is generally accepted.

Clinical History.—There is no disease in which the characteristic symptoms vary as much in the different epidemics as they do in influenza, and there is also no disease in which the symptoms vary as much in point of predilection and severity. The severity of the disease depends a great deal on the condition of patient at time of attack, *i.e.*, as to his resisting power; on the amount of exposure to which he has been subjected; and on the character of the epidemic. Almost everyone during an epidemic is attacked, although some suffer to such a slight extent—slight headache, gastric disturbance, or feeling of languor—that they think they have escaped the attack. The varieties of the attack during an epidemic have led to several classifications, depending upon the principal seat of the disturbance, as, for example:

Cephalic, thoracic, abdominal; cerebral, guttural, or bronchial, intestinal, typhoid. This was the classification of Sydenham, and depended upon epidemics extending over three hundred years.

The classification preferred at the present date, however, seems to be that of nervous, catarrhal, gastric.

These varieties, with but few exceptions, have the same general symptoms and tend to conclude in the same way. (The present epidemic is of a "catarrho-nervous," the catarrh being more marked in the lower respiratory tract.)

The general symptoms are: *Onset*, feeling of weakness, faintness, or dizziness, chilly sensations, constipation, frontal headache, perhaps nausea, vomiting, anorexia, languor, high fever.

Acute stage, lasting from a few hours to a week, during which we have frontal headache, often pain in orbits and eyeballs, loss of appetite, strength, and spirits, feeling of languor, lassitude, inability to fix attention, loss of desire to do any mental or physical work; rheumatic pains variously distributed in back of neck, small of back, costal region, and calves of legs; bowels continue constipated; urine high-colored; foul tongue and breath; fever continues of a remittent type, with evening exacerbations.

Stage of prostration, lasting from a few days to three weeks, marked by nervous prostration, general feeling of weakness, especially in legs, sweating on slight exertion, feeling of languor, poor appetite, etc.; and generally a bronchitis of a dry nature.

We will now consider the varieties individually, and point out the especial features of each.

Nervous Variety.—This variety complicates both the gastric and the catarrhal; but when taken immediately is especially marked by severe headache, pain in the eyeballs, rheumatic pains, neuralgia in various localities, restlessness, at times wakefulness, occasionally hyperæsthesia, and following it a stage of great nervous prostration, lassitude, languor, sweating, etc.

Catarrhal Variety.—This is generally spoken of as referable to the respiratory tract, although I presume that the gastric form is catarrhal as well. Several cases have also come under my observation where there seemed to be a catarrh of every mucous membrane, which I will mention in conclusion. The catarrhal form is generally marked by a catarrh beginning in the upper respiratory tract, with pain in frontal sinuses, eyes congested and watery, profuse and watery nasal discharge, feeling of stenosis over bridge of nose, marked angina, occasionally tonsillitis and pain in eyes, tickling in the throat, hoarseness, concluding in a bronchitis lasting from a few days to several weeks. Epistaxis and hæmoptysis occasionally occur.

Gastric Variety, marked by frequent vomiting, loss of appetite, constipation, often severe headaches, angina, and a bright erythematous eruption appearing over feet and upper extremities, closely resembling scarlatina.

The present epidemic seems to differ from previous epidemics in the absence of catarrh of the upper respiratory tract, it being only present in about ten per cent. of the cases. It also differs from many attacks in its mildness and lack of complications. For instance, in present attack, *Epistaxis*, so common in previous attacks, is very rare, only occurring in about two per cent. of the cases which came under my observation. One of these, however, was quite severe, continuing for some twenty hours, and only ceasing on administration of iron and ergot.

Dysentery has also been very rare, occurring only in two cases: one a boy, twelve years of age, lasting twenty four hours and ending in recovery; the other a case of Dr. Paine, who died in thirty-six hours from loss of blood. Blood was also present in the stools of many others in a slight degree.

Hæmoptysis was observed only in a few cases (slight).

Hæmaturia.—Several cases of this complication have been reported by other physicians, although I have seen none personally. It has generally been combined with catarrh of urinary tract, cystitis being almost invariably present.

Glandular enlargements in neck have not been prevalent, probably owing to the absence or mild form of catarrh in the upper and middle respiratory tracts.

Eruptions, with the exception of erythema, herpes, and an occasional urticaria, have been very rare in present epidemic, and no prurigo, erysipelas, or pustular eruptions have occurred.

Follicular Tonsillitis has been observed in several cases complicated with influenza of the catarrhal variety.

Quinsy, complicating many previous epidemics, has not been observed in the present one.

Eustachian catarrh and otitis media are complications which exist in a great many cases of the catarrhal variety, and these are often only particularly noticed by the specialists, general practitioners too often attributing their symptoms to neuralgic pains due to the disease, or to a sense of feeling due to quinine, which is being taken by almost all influenza patients; and thus eruptions of the tympanum have occurred in several cases where paracentesis ought to have been performed.

Diarrhœa.—Several cases have been reported to me where the disease has tended to end in a diarrhœa, sometimes quite obstinate, and in which the stools are frequently tinged with blood.

General catarrhal fever, i.e., a catarrh of all the mucous membranes, was observed in several cases, characterized by high fever, temperature 104° F., rapid pulse, vomiting, diarrhœa, painful and frequent passing of urine of a dark-red color, coryza, laryngitis, slight conjunctivitis, and bronchitis. The attack is very acute, but of short duration.

In children and infants, the symptoms are generally not as marked.

In children, they are as follows: Vomiting, headache, moderate fever, coated tongue, constipation, followed by a bronchitis lasting for almost a week.

In Infants, symptoms of gastro-enteritis, vomiting, diarrhœa, moderate fever, rapid pulse, and occasional convulsive movements.

Sequelæ of Influenza.—I draw my deductions here from the deaths which have been reported to the Health Board as due directly or indirectly to influenza; there have been about one hundred in all. During the heat of the epidemic lobar pneumonia was the most frequent and deadly. At present date, however, lobular pneumonia and bronchitis of the smaller tubes and capillaries are more frequent, and although they are not as fatal comparatively, have nevertheless caused many deaths.

Lobar pneumonia generally attacks patients during the stage of prostration; is frequently double, comes on in almost every case through a chill, and is accompanied by a very high fever. It has occurred most frequently in men, eighty per cent. of whom have been between the ages of forty and fifty-five. Death is usually from heart-failure, and occurs in from two to five days.

Lobular pneumonia is also very acute, lasting from three to seven days. This generally occurs in the old, and middle-aged, and the sickly, although young adults are also frequently affected. It seems to be most common among females. A chill more frequently introduces this disease than the lobar variety in the present epidemic. It begins at bottom of lung and spreads upward; death generally results from heart-failure or asphyxiation.

Capillary bronchitis and bronchitis of smaller tubes are complications of the ordinary form of bronchitis by direct extension. They generally occur in women and at any age. They are very fatal, the great prostration seeming to affect their power of expectoration, so that they choke up and die asphyxiated.

Meningitis has occurred in a number of cases and is very acute, death resulting generally in about two days.

Dysentery has occurred in two cases under my observation. It set in on about the fourth day, and caused death in two days. In both cases the first day's discharges were simply diarrhœal and the second dysenteric.

Nervous prostration, which is such a pronounced symptom in the various stages of influenza, will probably develop into an obstinate sequela, and even now cases of this disease begin to show themselves.

Cholera, a sequela which is so much feared, especially in Europe, will probably never reach our shores; it originates generally in the southwestern part of Asia, where cholera is more or less endemic, and is liable to attack those who have suffered from the gastro-intestinal form of influenza, which often occurs and leaves the mucous membrane in a somewhat denuded condition.

Typhoid fever as a sequela has not been observed in any fatal cases in this city, but the typhoid condition has been noticed frequently, and has been observed especially in some of the cases of dysentery, bronchitis, and bronchopneumonia.

Diagnosis.—The only diseases with which influenza is liable to be confounded are coryza, bronchitis, tonsillitis, dengue, scarlatina, rheumatism.

Acute coryza and bronchitis would be excluded by the absence of severe headache, muscular pains, great prostration, and anorexia, although doubtless, if these occurred during an epidemic, they would be more or less due to it, and most probably mild forms.

Follicular tonsillitis has many symptoms in common with influenza, but would be excluded through the absence of severe frontal headache, rheumatic pains, etc.; although I have every reason to believe that follicular tonsillitis has occurred in several cases of influenza as a complication.

Dengue resembles in a great measure the nervous form of the present epidemic. It would be excluded, however, on account of the different character of its onset, it generally taking from two to three days for the temperature to reach its height; the character of relapse, the pain, swelling in joints, the enlarged glands, the absence of bronchitis, headache, the stiffening of muscles.

The rapidity with which the influenza has travelled and the territory which it has covered, differ also from dengue, which occurs generally in circumscribed areas in the south of the United States, Spain, India, or Africa.

Scarlatina.—This disease, with which the present epidemic has been most confused, is excluded on account of lack of punctate character to the eruption, strawberry tongue, and angina; also, on account of speedy disappearance of eruption, which lasts about twelve hours. The eruption, however, is quite similar in its general erythematous blush, and when it is associated with some angina and high fever the resemblance is quite strong; especially as the tongue shows some enlarged and reddened papillæ on its near tip, which stand out prominently in contrast with the white coating covering it.

Prognosis—Good in most of the cases. The disease is self-limited, and if patient is careful there is no question of speedy recovery. The only danger is when it occurs in the old and the infirm, or those suffering from chronic troubles. One thing noticeable in present epidemic is how few phthisical patients, comparatively speaking, have died from its effects, although in many cases they have succumbed from intercurrent bronchitis. In Bright's disease and valvular disease of heart the influenza is more fatal. A few deaths were due directly to the disease, but these occurred in cases of old age, valvular disease of heart, tumors, and other cachectic conditions, in which the patients died within twelve hours, probably from the shock of the sudden onset. In two other cases of feeble women death occurred in two days, due to heart-failure.

Treatment.—Rest in bed during acute stage. Patient should remain at home until temperature is normal. It would be advisable for patient to remain in the house until entirely well, but as they generally will not do this, it is important that they should remain at home evenings; should be very careful in regard to their clothing, the wearing of rubbers, overshoes, etc.; should avoid all draughts of air, as in the stage of prostration and sweating they are very susceptible to pulmonary complications. They should ride in cabs if possible; if not, in horse cars or the front or rear car of the elevated.

At onset move bowels, calomel two grains every two

hours until they are moved. At bed-time, quinine and Dover's powder with a hot whiskey-punch.

For headache, fever, and muscular and neuralgic pains, give antipyrine, ten grains every two hours, with whiskey, one ounce, until headache is relieved. Two of these powders will generally be sufficient to relieve the most obstinate. It is not advisable to give more than three of them, but, in case they do not work, to change to antifebrin or phenacetin, in five-grain doses every two hours. Whiskey should be given with these drugs, as it hastens their action and tends to counteract their depressing effect. In case the muscular pains are obstinate, salol, five grains, or salicylate of soda, grains fifteen, will generally relieve them.

Great anorexia and weakness being present, milk-punches should be given every two hours, if well borne, during the acute stage.

In all stages of the disease whiskey is the remedy par excellence to counteract the great prostration, and should be taken three times a day throughout the attack. Quinine is also a standard remedy, and is useful both as an antipyretic and a tonic. During the acute stage it should be given, if the stomach can bear it, in five-grain doses three times a day, and in the stage of prostration following it should be given purely as a tonic in three-grain doses, in combination with nux vomica and iron in pill or solution. In the gastric forms, where there is considerable vomiting, good results have followed a milk diet with a powder of bicarbonate of soda, pepsine, and bismuth, ten grains of each every four hours.

In catarrh of upper respiratory tracts a pill of belladonna, camphor, morphine, and quinine every two or three hours gives speedy relief.

In bronchitis of the dry and semi-asthmatic form, which generally occurs, and which seems to be more of a congestion of the bronchial mucous membrane with nervous spasms, a mixture containing belladonna and morphine will usually give relief. When this does not, however, a mixture containing codeia will generally produce the desired effect. In case of bronchitis with abundant secretion, muriate of ammonia or some other stimulating expectorant must be given. In case of angina and tonsillitis being marked, a gargle of chloride of zinc, four grains, in listerine, two drachms, and water, six, generally affords relief. Complications should be treated accordingly, and digitalis should be given in cases where the heart-action is weak, to prevent heart-failure, as influenza seems to have depressing influence on the heart-action.

Clinical Department.

POISONING BY THAPSIA-PLASTER.

By HENRY B. DOUGLASS, M.D.,

NEW YORK.

A PATIENT, suffering from phthisis pulmonalis, developed a new area of consolidation with considerable pleurisy. The new pleural inflammation caused intense constant pain, increased by each movement of the thorax. For the relief of these pains he was given a thapsia-plaster, four by six inches, and applied it to the seat of the pain.

He experienced some relief after hours of application, but in twenty-four hours had developed such alarming symptoms that I was called to attend him. He was naturally a thin man, much emaciated by his disease, but now his face was in strange contrast to its usual condition. The skin over the whole head was severely swollen; the eyelids were so œdematous as to be nearly closed; the scalp, face, and neck were intensely gorged with blood; the skin, superficially œdematous; the arms, chest, abdomen, and back were covered with a confluent eruption of vesicles mingled with a diffuse erythematous condition and a few papules. The pulse was 100, the temperature 99° F., and the respirations 28 per minute. Burning and itching of the skin was intolerable. The only general symptoms were vomiting, and colicky pains in the intestines. The patient was much alarmed by the rapid onset of new symptoms and his rapidly developed uncomfortable condition.

He was ordered to remove the plaster; the whole body was given an alkaline bath; alkalies were administered internally, and in two days the symptoms had subsided.

Thapsia-plaster is a product of the French Pharmacopœia, and, according to Desnoix, is composed of resin, 1,500; elemi, 1,250; yellow wax, 1,800; turpentine, 500; and thapsia-resin, 350. The thapsia garganica in the plaster is the active irritant and one always expects a vesicular or erythematous eruption directly under the plaster, but I have never yet heard of any other case where general eruption followed its application.

There was in this case, no doubt, an irritable skin. But I am inclined to think that when the plaster began to irritate the patient scratched the skin under the plaster, and through his fingers conveyed the drug to other parts of the body by scratching.

The vomiting and colicky pains were the only manifest constitutional symptoms.

As a precaution, it would be well to avoid fingering the plaster and to cover it with a bandage of linen.

TRAUMATIC IRIDODIALYSIS.

By JOHN C. BOWKER, JR., M.D.,

LAWRENCE, MASS.

CASES of the above-mentioned trouble are sufficiently rare to warrant the presentation of the notes of a case recently under the writer's care. The patient, a highly intelligent lad of eight years, was playing with his comrades when he felt something strike his left eye, followed by a sharp pain. He was immediately seen by a physician, who prescribed for him and sent him home. Two days later the father took the case into his own hands and, in examining the eye, found a leaden bullet, weighing eight and a half grains, snugly packed away between the ocular and palpebral conjunctivæ, at the external canthus. This was removed, and when the boy was brought to me there was but a slight conjunctivitis, ciliary injection, and photophobia, together with a rent in the iris, covering probably five or six square millimetres, through which the red reflex was visible. The rupture was at the inferior external quadrant and about two millimetres of the ragged edge of the iris remained along the ciliary margin. The contraction of the iris threw the normal pupil into an irregular oval shape. Vision in the affected eye was 0.6, but through the artificial pupil light alone was distinguishable. The cornea was entirely uninjured and no abrasion could be detected even with a high-power lens. Though the false pupil still exists, the troublesome symptoms have, under treatment, wholly disappeared. The fundus is normal, the capsule seems unaffected, and the lad suffers almost no inconvenience, save from the disfigurement, which is slight.

TRIPLETS WITH ONE PLACENTA.

By R. S. VAN DORN, M.D.,

BASKING RIDGE, N. J.

HAVING noticed in THE MEDICAL RECORD several cases of triplets with but one placenta I add the following, which occurred in my own family, being my wife, and was her first confinement.

Being called from home on business which detained me for several months, I sent my wife to her father's in the country. Receiving a telegram from her that she thought she was about to be confined I hastened to her and found labor had already set in. I made an examination and found as I thought twins. The pains had commenced in the afternoon of November 3, 1889. At about six o'clock A.M. on the 4th, I found, on account of the large size of the child's head, I could not deliver without

forceps, and sent for Dr. P. J. Zeglio to come and bring his forceps. He came, and about ten o'clock we delivered the first child, when he received an urgent call and had to leave me. At six o'clock P.M. I delivered the second child, and at eight o'clock the third one. They were all born dead, and had from all appearances been dead about three or four days. They were all boys and finely developed, and weighed about eight pounds each, the three weighed twenty-four and one-half pounds.

The first was in the L. O. A. position, the second was a brow presentation, and the third a foot presentation. Two of the cords were attached near the border, about two inches apart, the third near the centre of the placenta.

On November 5th vomiting set in but was controlled by bismuth, carbolic acid, ice, and charcoal.

On the 8th I discovered signs of pulmonary œdema, which, under the use of dry cups, diuretics, and tonics passed away. On November 25th I left her to attend to business and returning on December 1st found she was complaining of nausea, headache, thirst, and pain; her temperature was 104° F., pulse 120. Her left lower limb was unnaturally hot and tender, not œdematous, but swollen to twice its natural size, of a pale, white color, tense, and elastic, while it had also a glazed or shining appearance. This I pronounced phlegmasia dolens.

For treatment I used sedative and alkaline fomentations, perfect rest, and simple diet. The fluid in which the fomentation flannels were wrung out was made by adding one pound of bicarbonate of soda and one ounce of extract of poppies to each gallon of boiling water. The flannels were changed every half hour, they were applied over the whole limb and lower part of the abdomen. The result was the pain ceased almost instantly, the swelling began to subside, and now, December 10th, she is on the road to recovery.

Progress of Medical Science.

The Treatment of "Nervousness."—In a paper on this subject, Dr. Zeuner says, among other things, that the general treatment of the nervous system is always essential, usually more so than the treatment of the local trouble, for the nervous disease often disappears while the local trouble remains. On the other hand, the latter may be cured without favorably affecting the nervous manifestations. Hygiene—the proper regulation of the manner of living—is the most important agency in giving tone to the nervous system and removing nervous symptoms. Sleep, diet, out-door exercise, and adequate employment and recreation, are the physician's affair. Hot water, where there is lack of appetite, is often of value. Where there has been overwork, or strain from worry, great responsibility, etc., rest should be ordered. The kind of rest is of moment. A change of activity is often greater rest, both to mind and body, than doing nothing. Inactivity too often favors introspection and brooding, which are to be guarded against as much as possible. Thought must be directed into healthy channels, away from the individual himself, until the proper relations to others are normally adjusted. The first in the list of special therapeutic measures is hydrotherapy, comprising hot, cold, and temperate baths, medicated and mud-baths, wet packs, douches, sponge-baths, etc. Personal trial determines the kind best suited to the case. The simplest form, the sponge-bath, can be administered at home. Hydrotherapy exerts a beneficial influence in nervous cases, partly as a calming agent, quieting the patient, inducing sleep, and relieving pain. Its influence in increasing the heart's action, hastening the circulation, and promoting tissue-changes, is probably greater than its soothing properties. A therapeutic measure of manifold application is electricity. The faradic current is often serviceable. General faradization acts as a tonic, improving the condition of the whole nervous system. Local faradism assists in relieving pain and spasm. The galvanic current, though less commonly employed, has a wider range of usefulness. Central galvanism exerts a general tonic influence, like general faradization. A mild current to the head produces good results, favoring normal sleep, and quieting and giving tone to the nervous system. Static electricity probably has a more limited range of usefulness than the other forms, but it often affords much aid in the management of "nervous" cases. The general application of sparks all over the body is an invigorating process, the static head-bath is calming and favorable to sleep, while more limited applications tend to relieve pain, spasm, and the like. The moral influence of the "big machine" is not to be ignored, patients expressing themselves as great believers in its efficacy. Drugs form the least important element in treatment, and often the patient is better off without medicines. Tonics are most frequently indicated, as quinine, arsenic, strychnia, cod-liver oil, etc. Remedies for the mere relief of symptoms—sleeplessness, excitability—are best omitted altogether. The most valuable of this type are the bromides. Given systematically for a short time, they put the patient in a better condition temporarily, thus allowing other measures to bring about a cure. Severe cases, that induce chronic invalidism, are best treated by the Weir Mitchell plan—rest, massage, electricity, and excessive feeding—when there is loss of flesh and impoverished blood. Change of scene, mountain air, ocean voyages, sea-baths, etc., are powerful adjuvants.

Faradization in Ascites.—Dr. Kaufmann calls attention to this treatment, lately brought forward by Muret, and recommends it from his own experience in ascites, especially where it is due to portal obstruction, as in affections of the liver, spleen, and peritoneum, and in pericarditis. It is less useful where the ascites is part of a general œdema. Its effect is much increased when the treatment is begun by tapping. Then one can readily, with a moderate current, produce energetic contraction of the abdominal muscles, whereas, where there is considerable distention of the walls, even a strong current will not produce effect. Faradization is carried out with the patient lying horizontally on the back and the pelvis elevated. The abdominal muscles are in turn faradized; the electrodes, which are provided with an interrupter, being placed upon the motor points of the muscles. As soon as a moderate contraction is produced, the current is interrupted, and the muscle allowed to relax. This is repeated several times. With regard to the position of the electrodes, the one is placed above the symphysis pubis on the lower end of the rectus (either right or left), the other just below the ensiform cartilage on the upper end of the muscle. For the oblique muscles one electrode is placed underneath the costal margin in the mammillary line, the other upward and forward from the anterior superior spine. For the transversalis the twelfth rib and the iliac crest are the respective positions. The application is repeated several times, and at the conclusion an electrode is placed on the sternum, while the other is set on the different muscles, and by a repeated contraction a form of massage practised. The "sitting" lasts from ten to fifteen minutes, and is carried out once or perhaps twice daily.—*The Practitioner*, October, 1889.

The End not Justifying the Means.—A surgeon in Tennessee is reported in the local press as the hero of the following interesting item: A patient brought his amputated finger to the doctor, who sewed the finger on, being drunk when he did so; the doctor sewed it on with the plain surface turned the wrong way. The doctor, after sobering up, wanted to amputate the finger and put it back right, but the patient declined. The doctor can now be punished whenever the patient points that finger at him.

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THE BALSAM CURE OF PHTHISIS.

THE ingenuity of mind and fertility of resource displayed in discovering new methods of treating phthisis during the passed decade is something remarkable, and it seems as if it must eventually prove successful. At any rate, no failures in the past at all deter enthusiastic workers in this line. It hardly seems possible that another method of treatment, involving a new therapeutic principle, should be devised, yet such is, to a large extent, the case with the Peru-balsam cure as suggested by Landerer, and more perfectly carried out by Dr. Max Opitz (*Mün. med. Wochenschrift*, November 19 and 26, 1889). Landerer based his views of the value of Peru balsam in tuberculosis upon its success in the treatment of surgical forms of this disease. In administering it internally, however, he did so because he thought that the balsam was carried by the blood to the tuberculous areas and there excited an inflammatory action which circumscribed the tubercle, and led finally to its drying up and healing as a cicatrix. The reason why tuberculous deposits do not, as a rule, heal, is because they are not sufficiently vascular, connective-tissue proliferation does not take place, and the ulcerated and disintegrated tissue fails to become encapsuled. The balsam of Peru is thrown into the blood for the purpose of starting up a peripheral hyperæmia and promoting the formation of a capsule. The treatment is not antiseptic, but phlogistic. This theory was tested upon rabbits, inoculated with tubercle. He injected into their veins one per cent. emulsions of Peru balsam, and found that they did cause encapsulation and shrinking of the pulmonary tuberculous nodules. He also tried the treatment upon four men, into whose veins he injected emulsions of Peru balsam of the strength of 1 to 400. Two of these cases, in the first stage of phthisis, were cured; two other patients, in an advanced stage of phthisis, were improved.

Dr. Opitz modified the treatment in this way. He prepared emulsions of Peru balsam of the strength of 1 to 5, viz., powdered gum arabic, 1 gramme; water, 1 gramme; pure Peru balsam, 2 grammes; physiological salt solution (0.75 per cent.), enough to make 10 grammes. This mixture was neutralized with bicarbonate of soda and sterilized by heat at a temperature of 110° C. The preparation, as finally completed, has a white, milky appearance, and shows under the microscope the particles of Peru balsam of about the size of red blood-cells or smaller.

This emulsion is given hypodermically, in the neighborhood of the first or second intercostal space, anteriorly, and the injection is made, with all antiseptic precautions, twice weekly. It is rather painful, but if care is taken no abscess results. The preliminary use of cocaine or ether spray is not considered necessary.

Dr. Opitz divided the cases which he has treated by the balsam emulsions into three groups, corresponding in general with the first, second, and third stages of phthisis. Three patients in the first group were all, at the end of about three months, apparently cured. Those in the remaining groups did not show such marked benefit, though good results followed.

THE INFLUENZA.

WE have received a very large number of communications upon the subject of influenza, to which it is impossible to give space, especially as the epidemic is very rapidly declining and will soon be only a matter of history. The symptoms and course of the disease have offered no special peculiarities, but were such as are recognized generally as characteristic of the affection. There have been the catarrhal symptoms, the headache, pain in the body and limbs, general cutaneous hyperæsthesia, and the strange mental depression so out of proportion to the apparent gravity of the disease.

The tendency to lobar pneumonia, as a complication or sequel of the influenza, was perhaps more than usually marked, though much less marked than one would have supposed from reading the sensational newspaper accounts. These reports undoubtedly did a great deal of harm by exciting the fears of the morbidly nervous and apprehensive, and in disquieting even those of ordinary common-sense. Even if the mortality were not thereby made actually greater, there was certainly much unnecessary mental suffering caused. We did what we could to allay this apprehension in our editorial comments upon the progress of the epidemic, and we were gratified to see that the daily press was ready to accept a professional opinion as authoritative, and by copying so extensively the statements of the MEDICAL RECORD to undo the harm, as far as it could, that some of the more sensational journals had done by their hysterical comments. The mortality from pneumonia has doubtless been high, even for this season of the year, and the increase may very justly be ascribed to the grippe; but when we compare the number of reported deaths from pneumonia with the enormous figures which the morbidity statistics of the influenza epidemic would show (we may safely put the sufferers in this city at nearly half a million), it will be apparent that the danger of contracting pneumonia was by no means alarming.

The only new therapeutic points which have been developed in this epidemic are the good effects obtained by the use of the new synthetic drugs. We cannot see, from the reports furnished us by our numerous correspondents, that any one of these possessed any peculiar advantages over its rivals as far as actual curative effects were concerned; but, as might be expected, the latest and most fashionable was the favorite, and the most loudly praised.

On the whole, we have passed through the epidemic as well as could be expected, and better than was feared by

many who had carefully studied its progress from the extreme east of Europe to our own shores. There has been a good deal of suffering, and many have to mourn for those whose sufferings are past; but there is less of this than there might have been, and, now that the enemy has gone, we may congratulate ourselves that his guns were not so large as we feared they were when we first heard their echoes from a distance.

One word more to our friends of the daily press. There is cholera in Mesopotamia, among the nomad population, but there is no reason in the world why we should take alarm at that. Cholera has existed many times before in the East, but has not necessarily come West. Cholera may come here next summer. New York may be destroyed by an earthquake. We do not believe either event is probable.

THE BUILDING OF NEW HOSPITALS.

According to the *Cincinnati Medical News*, that city has been attacked by a mania for the construction of new hospitals. It mentions among these a hospital by the Episcopalians, one by the Methodists, one by the Presbyterians, a gynecological hospital, and several children's hospitals.

The American Lancet comments upon this, and avers that Cincinnati has already quite enough hospitals. Our esteemed contemporary also deprecates the present mania for building new hospitals, many of these being started to further personal rather than philanthropic aims.

In 1875–76 the medical register for New York City gave a list of twenty-nine hospitals, many of them being small and special in character. In 1889–90 the list includes forty-seven, not taking into account the numerous private institutions or the three homœopathic hospitals. It is evident that the hospital work of this city has doubled in the past fifteen years, although the population is but one-third greater.

A study of the hospital accommodations of Brooklyn shows a similar increase, though proportionately a much smaller number of hospitals, with a population not so very far behind that of New York. Brooklyn has only a dozen hospitals, several of them being special in character.

The increase in hospitals is everywhere greatest in the trading centres, but it is not there alone. Small cities and large towns are all learning the utility of having local hospitals, and throughout the East a hospital soon appears when the local population reaches twelve thousand, or even less. Everywhere the hospital idea is spreading. And the idea is a good one, only it should not be carried too far.

The excessive multiplication of purely charity hospitals has, beyond all doubt, a deleterious influence, not only on the income of the physician, but on the advance of medical science and the *morale* of the patients. It is just as bad to have medical and surgical help extended, and even pressed, upon the public gratuitously, as it would be for the government to distribute largesses of bread and meat. We have passed such a stage of civilization. The present increase of hospitals already has, on the whole, tended to increase the sum total of charitable medical work expended upon those who do not need such charity.

In time this tendency, unless in some way controlled, will prove of manifest detriment to the majority of the profession and to the public. It will lessen the rewards of practice, make the physician's life a harder one, diminish its attractions, and lessen the number of able men who enter it.

It behooves the profession, therefore, to watch carefully this tendency to profuse endowment of unnecessary eleemosynary institutions. *The Lancet* thinks that a solution of the question would take place if the hospitals paid their medical staffs a definite salary, and forbade their private practice, requiring them to give the hospital all their time and energies. Then hospitals would be on an independent basis, and the reasons impelling the construction of new hospitals would not exist; and so the hospitals would follow the laws of supply and demand of the sick rather than the supply and demand of physicians seeking hospital positions.

THE TREATMENT OF LOCOMOTOR ATAXIA BY SUSPENSION.

In *The Practitioner* for November, 1889, Dr. J. Mitchell Clarke reports the results of the suspension treatment in eleven typical cases of locomotor ataxia. He found in this treatment a safe and easily carried out method of treatment which afforded considerable relief to certain symptoms in most cases. Dr. Clarke gives a number of details regarding the technique of the method. Improvement in gait, lessened ataxia, gradual diminution in pains, relief of bladder troubles, partial relief of impotence were among the symptoms noted.

Dr. C. L. Dana, in the *Boston Medical and Surgical Journal* for October 31st, reports twenty-two cases of locomotor ataxia treated by suspension. Among these very marked improvement occurred in four, much improvement in three, slight or no improvement in eleven. The conclusions are in harmony, on the whole, with those of Dr. Clarke, the improvement showing itself mostly in a better gait, greater strength, relief of pain and bladder troubles. The time required to obtain relief varies much. Heavy and helpless patients have to be suspended with great care. Patients in the second stage of the disease, according to Dr. Dana, are best adapted for the suspension treatment.

Messrs. Haushalter and Adam, of Nancy, report the results of their work in this line in *Le Progrès Medical*, November 2, 1889. They have used suspension in 29 cases, mostly of other nervous diseases than locomotor ataxia. In 6 cases of this latter disease they obtained amelioration in 4 cases.

Professor Bernhardt, of Berlin, has tried suspension in twenty-one patients. He finds that the method is applicable to a great number of tabetic patients, whether ataxic or not. Carefully conducted by the physician himself, it is, as a rule, free from danger, and is easily tolerated. But it cannot be denied that accidents may occur. Patients much reduced in general health, also the subjects of heart or lung disease, should not be suspended. Suspension does not appear to cure tabes dorsalis any more than any other treatment, but it may be found to relieve some distressing symptoms, and is, therefore, perfectly justifiable in properly selected cases.

Several other German, French, Italian, and English physicians have contributed to the same subject, but they, for the most part, reach about the same conclusions as those above given, and it may be concluded that the suspension treatment has established itself as a measure of real value in the therapeutics of that chronic and painful disorder, locomotor ataxia.

News of the Week.

Another Alleged Discovery of the Influenza Bacillus.—It is just announced that Professor Weichselbaum, of the University of Vienna, has discovered the bacillus of influenza, and finds in it some similarity to the pneumonia bacillus, but is quite sure that it is a distinctly different microbe. Seiffert, two years ago, reported his discovery of the same bacillus, but his observations were not confirmed. The opportunities for verification of the more recent announcement are more abundant now than then, and we have no doubt that they will be improved accordingly—at least we must wait and see. Microscopic examinations by eminent bacteriologists of Vienna have revealed the presence of numerous micrococci in the sputum, but injections made with this on rabbits only resulted in the death of the animals from septicæmia.

Notes on the Grip. *Mixed Pathology.*—"What do you mean by la grippe, Count, in France? It seems such a strange name for a cold in the head." "Yais, Mees Hartingtonne, eet ees singulaire. I sink ze grippe in America is a sort of—of —vhat you call a handshake—n'est ce pas? And pairhaps zat has somesing to do vith vhat you call ze malair—ze shakes? C'est la même chose, pairhaps."—*Harper's Bazar.*

A Royal Prophylactic.—A report, which is probably a foolish canard, is cabled from London to the effect that the Prince of Wales always wears a sachet filled with frankincense next his skin as a preventive of infection, and attributes his freedom from influenza to its virtue. The Princess of Wales and her daughters wear similar sachets.

The "Grip" in Paris.—At a discussion before the Academy of Medicine Professor Sée stated that the epidemic, in his opinion, was a special form of catarrhal fever. Professor Potain made measurements of the spleen in patients affected with influenza, and he remarked an augmentation in the size of that organ, a fact tending to prove that the malady is the result of a true infection. One curious circumstance brought to notice is that those addicted to alcohol do not take the disease. The doctors have therefore recommended their patients to use warm alcoholic drinks. Unfortunately, on the strength of this prescription, the public have been indulging in these drinks to such an extent that in three days, including Christmas Day, no less than one thousand five hundred persons were arrested in the streets of Paris for drunkenness. Of this number, at least one thousand two hundred stated, in defence, that they were simply following the treatment prescribed for influenza.

The Late Epidemic has made the young doctors dance with joy, while the older ones wish they had never been born; and the specialists are a little in doubt, but expect something later from the wreckage.

The Home of the "Grip."—Dr. Edward M. Buckingham, of Boston, sends to the *Boston Medical and Surgical Journal* a letter from Mr. F. E. Rand, formerly of the Caroline Islands, a group lying about six thousand miles southwest of San Francisco. The writer says that in these islands an epidemic closely resembling the present influenza always appears twice a year, in January and August. This disease attacks nearly everybody. How about hay fever there?

The New Diuretic is named Diecretin and not Duretin, as previously stated. It is chemically the theobromium-natrium salicylicum.

Long Island College Hospital.—Dr. Clarence Thwing, formerly interne at the Hospital for Ruptured and Crippled, in this city, has been appointed Attending Orthopedic Surgeon to the out-patient department of the Long Island College Hospital, Brooklyn.

The Farnham Gift to the Academy of Medicine.—The estate of Dr. Farnham has given $10,000 to the library fund of the New York Academy of Medicine.

The Allegheny General Hospital of Pittsburg has now a male instead of a female superintendent. The latter generally make trouble with the medical staff, as in this instance.

The New Park Hospital, Toronto, Canada, is to be enlarged, and will be completed by October 1st.

Unregistered Dentists.—Two unregistered dentists, of this city, who were really barbers, were recently fined $50 each for filling teeth.

Dr. Charles B. Goldsborough, surgeon in charge of the United States Marine Hospital, New Orleans, died January 6th. Dr. Goldsborough entered the service in 1876, and was stationed successively at Washington, Baltimore, Mobile, Chicago, and New Orleans, where he lived.

Philadelphia Hospital.—Dr. George M. Wells, Chief Resident Physician of the Philadelphia Hospital, has resigned.

Deputy Health Commissioner Sanborn has been compelled to resign and give up his position to Dr. Skinner, a friend of Senator Frank Hiscock. Dr. Sanborn has by a long service of eleven years proved himself a very efficient officer, but that has no bearing on his case politically.

Poisons and their Antidotes.—A bill has been introduced in the New Jersey Legislature providing that all poisons sold should not only be duly labelled, but also name the antidote for said poison.

Trying to Collect their Bills.—Some four hundred physicians of Brooklyn are said to have formed a protective association, the object of which is to protect its members from imposition by supplying for their private use the names of such persons as are ascertained to be able but who will not pay the bills rendered them for medical or surgical aid, and to aid its members in the collection of such bills as are not collectable by the ordinary methods. The report further states that the aggregate of bad bills turned in by the members during the first month was $32,000, and the number of delinquent debtors was about one thousand four hundred.

A Wonderful Operation.—The following report of a most hazardous operation, most skilfully performed, is taken from a secular journal in a neighboring city: "The patient was a man, sixty-eight years of age, and the surgeons removed a tuberculous tumor from his neck. The operation was completed in less than an hour. An incision was made on the right side of the neck, in the submaxillary region, and all of the tumor, excepting the sac, which was firmly attached to the surrounding tissue, was removed. As the tumor had been resting on the internal laryngeal nerve, the patient had great difficulty in breathing. The operation was successful." We wonder if this is the only one of its kind on record? Where is the man who can remove a wen successfully?

No Autopsies at the Chambers Street Hospital.—The New York Hospital authorities have made a rule that no autopsies shall be made at the Chambers Street Hospital except at the request of the coroner. The hospital was censured last fall for permitting autopsies to be made without permission of the friends of the dead person.

Can a Negro Sneeze? is a question which has been ably discussed in the daily papers of several cities in the land, and upon which the opinions of many learned physicians have been obtained by the persistent interviewer. We would suggest, as a more important subject of inquiry, and one which has never yet been satisfactorily answered, Can an oyster laugh?

The New St. Peter's Hospital in Brooklyn was formally opened on January 11th by Bishop Loughlin. The new hospital, which cost in the neighborhood of three hundred thousand dollars, is a four-story, basement, and attic building of brick and stone; the façade of the basement, which is above ground, being of stone, and the remaining stories of Philadelphia brick and ornamental terra cotta. It has a frontage of 220 feet on Henry Street. From each end of the main building a wing extends back 92 feet on the side streets, the one on Congress Street being for female patients, and the one on Warren Street for males. The chapel and convent extend 117 feet back of the main building. There is thus an open court between the convent and the two wings in the rear. The stable, boiler-house, and several other supplementary buildings, have a frontage of 91 feet on Warren Street; the laundry building, which is 50 feet in depth, extending 67 feet on Congress Street. Rolled iron beams are used throughout the hospital, the ceilings being of plaster and the floors and trimmings of varnished yellow pine, except in the kitchens, sculleries, lavatories, etc., where the floors are of tile. The main stairs, from the first story to the fourth inclusive, the stairs in each wing from basement to garret, and the principal stairs in the Sisters' House, from basement to top floor, are of iron, as are the hand-rails and steps, and all trimmings and ornaments. Every part of the building is strictly fireproof, and every convenience known to modern sanitary and plumbing science is provided. There are several freight and passenger elevators, and speaking-tubes and call-bells connect every part of the building. Each floor is also provided with two sets of hose, which are attached to the water-pipes ready for use at need. The building is lighted throughout by gas, and is warmed by heated air from the basement. The hospital contains twenty-four wards, providing in all for 260 beds, in addition to accommodations for a number of private patients. The basement of the main building and wings is devoted to the boiler-rooms, kitchens, sculleries, and dining-rooms for the Sisters, etc., each of which is a model of its kind. The drug store, operating-room, parlors, reception-rooms, consulting-rooms, linen-rooms, porters' rooms, and a few wards occupy the main floor. The second, third, and fourth floors contain the hospital wards and private rooms, as before noted; each story being provided with separate kitchens (provided with apparatuses for warming the food prepared below), lavatories and bath-rooms, linen-rooms, and rooms for washing, disinfecting, and refolding of bandages and surgical appliances. The convent occupies the whole of the rear extension of the main building, and is entirely separate from the front portion, although connected with each floor by several doors. The chapel, which has a seating capacity of 400, is situated on the second floor, at the head of the grand staircase. The hospital is under the care of the Sisters of the Poor of St. Francis.

Poisons Must be Labelled.—Several druggists in this city have been arrested for failing to comply with the law which directs that all bottles or packages containing poisonous drugs must be labelled. Several accidents have occurred recently from the swallowing of preparations intended for external use only, and so marked, but with the omission of the poison label.

The Pauper Hospitals of New York.—The New York County Visiting Committee of the State Charities Aid Association, in their annual report on the condition of Bellevue Hospital and other institutions in the department of Charities and Correction, have found, in their visits to the hospitals, asylums, and workhouses, a few things to praise, many to criticise, and some to condemn. Among the faults at Bellevue Hospital the most serious one to which attention is called is that of the food. The Visiting Committee think that the general diet has been only "fair," while the special diet throughout the winter and spring was "so poor as to be practically useless." The report upon the Ninety-ninth Street Hospital is, that the whole aspect of the place is shabby and discreditable to the city, and that the accommodations are in no way adequate to the growing needs of the district. The dispensary of this institution is much cramped for room; many of the applicants have not space to sit down; and in the district bounded by the North River and Central Park, between Fifty-ninth and One Hundred and Thirty-first Streets, there is no other dispensary. The hospital has no operating-room; the operating-table is in the men's ward, close to the beds, with hardly space to pass around it; and the ward, since the removal of the tent, is often much crowded. There is but one bath-room for the whole hospital—patients, doctors, and nurses. At the City Lunatic Asylum, Blackwell's Island, the accumulation and crowding of patients go on. The number on September 1st was 502 in excess of the capacity of the buildings, and a part of this space was occupied by 31 attendants. The minimum number of patients during the year was 1,660, only 17 less than the maximum of the preceding year. The staff of attendants consisted of 175 persons. During the year there were 128 changes in position among the 175. There were 98 resignations—

more than half the whole number—an apparent sign that the doctors and other attendants think the asylum a good place to get away from. The Visiting Committee think that greater attention to their comfort, and some provision for rest and recreation when they are off duty, would be most effective in improving the service of the staff. The institutions on Randall's Island are generally commended in the report in respect of accommodation and management; but, in connection with the Infants' Hospital, the criticism is made that the good young girls who are in training for nurses are not in the least competent to deal with the women who come as mothers of the babies, and most of whom need discipline rather than nursing. The whole institution, the Visiting Committee think, is founded upon a mistaken system, and should be radically changed or totally abolished.

Nearly a Century of Active Life.—Dr. William L. Candee, one of Milwaukee's oldest physicians, died at his residence, 540 Cass Street, last week at the age of ninety-eight years. His death was the result of general debility. Notwithstanding his extreme old age, the doctor retained his faculties and reasoning powers almost to the last. He was a native of New England, being born at Oxford, Conn., June 9, 1791. When a young man he graduated in medicine, and served through the War of 1812 as a surgeon. After practising medicine in the Empire State for many years, Dr. Candee located in Milwaukee in 1852, where he joined a son who had preceded him two years. He made this his home until the time of his death. The deceased was a remarkably well-preserved man, and knew a great deal of the interesting history of the development of this country by actual experience or personal observation. He saw Fulton's first steam-boat in operation, as well as having been a passenger on the first regular railway train run in the United States.

Society of the Alumni of Charity Hospital.—The January meeting of the Society of the Alumni of Charity Hospital was held at Clark's on the evening of the 14th inst. Dr. Ramon Guitéras read a paper entitled "Some Features of the Prevailing Epidemic of Influenza." The paper elicited an animated discussion, and many interesting points were brought out. Dr. Newton, of Montclair, reported the interesting fact that, in several cases of "grip" which had come to his knowledge, complicating pneumonia had undoubtedly started in the deeper parts of the lung and spread to the periphery—a fact which he thought tended to show that the complication was due to direct infection from the bronchi. Dr. Daniel P. Pease read an interesting paper on "The Differential Diagnosis of Variola," which also elicited a very general discussion.

The Late Dr. Isaac E. Taylor.—At the annual meeting of the New York County Medical Association, held January 20, 1890, the following minute, prepared by a special committee consisting of Dr. John Shrady, A. L. Carroll, and John G. Truax, was adopted: "In the death of Isaac E. Taylor this Association laments the loss of a wise counsellor and untiring supporter. While his professional attainments gave him public distinction, his private virtues endeared him to all who were admitted to his intimacy, and his associates, who knew not only his unwavering devotion to the highest interests of scientific medicine, but his unvarying benevolence of disposition and generosity of thought and deed, mourn even more for the loved friend than for the eminent physician.—P. Brynberg Porter, M.D., *Recording Secretary.*"

Leprous Immigrants.—An alarming increase of pauper immigration is reported at St. Vincent, Minn., *via* the Canadian Pacific, from the Allan line of steamers at Montreal. Six cases of leprosy have developed in that county among immigrants, one of which is in the last stages. It is intimated that the steamship companies have been sending undesirable passengers over the boundary at Hallock, Minn., on the supposition that the official force is lower in that vicinity than it is around New York, a supposition which the Kittson County Commissioners ask the customs officers to co-operate with them in correcting.

New York County Medical Association, Annual Meeting.—At this meeting, which was held on the 19th inst., the reports of the executive and other committees were read; also a summary of the work done, and the general condition of the Association, was presented by the Corresponding Secretary. The active membership was reported to have reached four hundred and thirty, the losses being in consequence of deaths and removals from the State. The Treasurer reported the excess of receipts over disbursements as being nearly $600. Committees on condolatory resolutions were appointed in the cases of Drs. John S. Lenahan, Lewis Hall Sayre, and David Clark Cocks. The tellers announced the number of votes cast as ninety-four, and the result of the election as follows: Charles S. Wood, President; George T. Harrison, Vice-President; P. B. Porter, Recording Secretary; A. D. Ruggles, Corresponding and Statistical Secretary; J. H. Hinton, Treasurer; and A. Palmer Dudley, a member of the Executive Committee, to fill vacancy caused by expired term of service. Dr. John Shrady then read a eulogy upon the late Dr. Isaac E. Taylor, after which the meeting adjourned.

The Title of "Doctor" in America.—"It is a curious coincidence," says the London *Medical Press and Circular*, "that at the very moment when the profession in this country is internally agitated in favor of a more general acquisition of the right to use the title of 'doctor,' the leading medical journal in the United States is seriously considering the advisability of altogether dropping the cognomen as a distinctive mode of address for physicians. Indeed, so widely does the feeling in this respect extend in America, that our contemporary, the Medical Record, of New York, goes so far as to express the hope that 'some day there will be founded a society for the abolition of the title of doctor.'"

A New Antipyretic, which is said to combine antirheumatic and analgesic properties, has been introduced under the name of "Phenylurethane," by Professor Giacomini (*Pharm. Zeit.*). It is a compound belonging to the aromatic group, resulting from the combination of aniline with chloro-carbonic ethyl ether. It is a white crystalline powder, which is insoluble in water, but freely soluble in concentrated alcohol. The dose is about seven grains. Its use is not entirely free from danger, judging by the accounts given.

The Eastern Dispensary, New York.—During the past year 61,228 patients visited the dispensary, 76,000 got medicine free of charge, and 106,748 called for consultation and advice. The expenses were $14,666.66. A new building for the dispensary is being erected at Broome and Essex Streets.

Fifty-five Thousand Dollars for the Hospital Association.—The Hospital Saturday and Sunday Association held its annual meeting January 20th, at St. Luke's Hospital. The annual report showed that the collection for 1889 would be about $55,000, an increase of $3,000 over the preceding year. Of this $40,000 is already in the hands of the Treasurer. St. Bartholomew's Church contributed $6,500, the largest sum ever contributed to the Association by one church in a single year. The sum of $290 was collected at the nine boxes put up at elevated railroad stations. These officers were re-elected: President, George MacCulloch Miller; Vice-President, Hyman Blum; Recording Secretary, John S. Bussing; Corresponding Secretary, the Rev. George S. Baker; Treasurer, Charles Lanier; Executive Committee, George MacCulloch Miller, the Rev. George S. Baker, John S. Bussing, Richard H. Derby, M.D., A. G. Agnew, Jacob H. Schiff, George C. Magoun.

Expert Medical Witnesses.—A special meeting of the Medical Society of the County of Kings was held January 14th, for the purpose of considering the following resolutions:

"*Whereas*, The medical expert witness is at the present time held in less repute than formerly, and his opinions have lost much of their force with both judge and jury; and,

"*Whereas*, Such diminished respect for the medical witness tends to injure the profession as a whole and to lessen its influence; and,

"*Whereas*, It seems probable that the status of medical expert testimony may be improved by united and harmonious action of the profession looking toward that end;

"*Resolved*, That it is the sense of this Society that it is derogatory to the best interest of the medical profession for any of its members to occupy in a legal trial the position of medical adviser to counsel, and witness in the case;

"*Resolved*, That it is the sense of this Society that the physicians who are called upon to give evidence in legal cases, with reference to the existing physical condition of patients, should insist, if it be possible, upon meeting in consultation the physicians to be called by the other side, so that there may be a full interchange of views before they testify."

These resolutions were offered at the May meeting by Dr. J. H. Raymond, the Society voting to postpone the consideration of them until a special meeting could be called, and that representatives of the legal profession be invited to be present and participate in the discussion. The question was discussed by Dr. Raymond, Dr. Jerome Walker, Judge Bartlett, Dr. Sidney Allen, Judge Cullen, Dr. R. G. Eccles, Dr. Otto Singin, and Dr. Duncan. The resolution was tabled for future action.

The Late Professor Volkmann left behind him, almost ready for the press, a monograph on "Cancer."

The Sick Paupers of New York.—From the report of the State Board of Charities for this year we learn: The number of inmates of the various charitable, correctional, and reformatory institutions of the State, October 1, 1889, as shown by the returns of their respective officers, was 67,781, as against 64,322, October 1, 1888, as follows: Insane, 15,482; idiotic and feeble-minded, 1,330; epileptic, 584; blind, 657; deaf and dumb, 1,328; orphan and dependent children, 20,949; juvenile offenders and delinquents, 4,765; adult reformatory prisoners, 944; sick and otherwise disabled soldiers and sailors, 973; hospital and infirmary patients, 3,782; adult and aged persons in asylums and homes for the friendless, 7,007; poorhouse and almshouse inmates other than the above classes, 9,980. During the year the various dispensaries and hospitals of the State furnished medical and surgical relief to 443,341 outdoor patients, of whom 26,097 were visited and gratuitously treated at their homes. The various counties and cities also relieved 59,761 outdoor sick and poor in the course of the year, as against 48,950 the preceding year. The expenditures in this direction were $671,671.36, as against $576,515.83 the previous year.

Philadelphia County Medical Society.—At the annual meeting of the Philadelphia County Medical Society, January 16th, the following officers were elected for the ensuing year: President, Dr. W. W. Keen; First Vice-President, Dr. J. B. Roberts; Second Vice-President, Dr. J. H. Musser; Secretary, Dr. S. Solis-Cohen. Delegates were also elected to the American Medical Association, to the Pharmacopœial Convention, and to the Medical Society of the State of Pennsylvania. Following the election, Dr. Keen delivered his annual address, in which he reviewed the work of the Society during the year.

A Mistake.—Our esteemed contemporary, the *Weekly Medical Review*, admits that Chicago physicians assume somewhat more prominence than St. Louis physicians, and thinks that the reason is that the latter "do not write." We believe that it would be a great mistake for the profession of St. Louis to adopt this view, and try to seek prominence by writing. It is not writing, but working, which gains for medical men eminence. Let St. Louis physicians seek to contribute to the solid advancement of the medical sciences, and incidentally, write.

A Convention of Physicians was held in Baltimore on January 2d, for the purpose of preparing a bill to regulate the practice of medicine in Maryland. Such a bill was drawn up and unanimously approved. It provides for the appointment of a Board of Medical Examiners, independent of all colleges.

Post-Graduate Instruction at the Johns Hopkins Hospital.—It is announced that special courses of post-graduate medical instruction will be given in the Johns Hopkins Hospital, physicians residing in the city of Baltimore being admitted free of charge, upon registering and obtaining tickets of admission at the office of the Hospital.

The Greatest Number of Births in England occur in the month of February, and the least number in June. It is in May, therefore, that men's fancies most intensely turn to thoughts of love; while September is the coldest month of the British year.

"Female Medical Men!"—An Irish editor says he can see no earthly reason why women should not be allowed to become medical men.

The Dengue Fever has been epidemic at Smyrna, and has attacked four-fifths of the population of one hundred and fifty thousand.

The City of Atlanta, Ga., has voted to appropriate the sum of $30,000 to establish, the Henry A. Grady Hospital.

The Earl Crematory at Troy, N. Y.—The twelfth crematory erected in this country has just been finished at the Oakwood Cemetery, Troy, N. Y. Two bodies have already been incinerated there.

The Advance Westward of the Cholera.—It is stated that the epidemic of cholera which has for months hung about the Tigris and Euphrates Valleys, and the interior of Mesopotamia, has made considerable inroads into Persia. News of its having crossed the western boundary of that empire has been received from time to time, and it is now announced to the Faculty of Medicine of Paris that there has been an alarming increase of the disease in Central Persia and on the Turco-Persian frontier; and that the inhabitants are fleeing northward.

Dr. William Blake Eager, a leading physician of Middletown, N. Y., died on January 20th, from pneumonia, aged sixty-five. He was graduated from the College of Physicians and Surgeons in 1848, and practised in this city. He was chief of the medical staff at Blackwell's Island for a time, and then held the position of Professor of Gynecology at Bellevue Hospital Medical College. When the war broke out he entered the army as a surgeon. He had resided in Middletown since 1874.

Death from Chloroform due to Respiratory Failure.—A telegram to *The Lancet*, from Dr. Lauder Brunton, now in India, states that, after experiments on four hundred and ninety animals, he has reached the conclusion that the danger of chloroform is asphyxia, not heart failure—a direct reversal of Dr. Brunton's former views.

The Belgian Medical Federation have hit exactly. They have come to the conclusion that the ranks of the profession are overcrowded because a large number of young men of no particular ability, from the artisan and lower classes, have the idea that the practice of medicine is a nice light sort of work. To stop this it is proposed to require, as a preliminary to entering upon medical study, a very complete classical education, with a good knowledge of modern languages.

The Carriage of Infection by Medical Men.—This subject has been much discussed of late in English papers, and aroused several ingenious suggestions: One gentleman (Dr. Eastes) suggests keeping a macintosh hanging in the hall in houses where there is a case of infectious disease, the said garb to be donned on entering the room. The most foolish plan is probably that suggested by Mr. Fussell, the medical officer of health for East Sussex. This gentleman orders a sheet to be placed over the patient's head and face and the windows to be opened for three or four minutes before he enters the room. Failing a glazed macintosh, he wraps himself up in a sheet and pays a hurried visit, with his hat well down over his ears. The effect on the patient of such a ludicrous yet awe-inspiring ceremonial must be singular.

Professor Robert Koch is writing a complete treatise on the biology of the tubercle-bacillus.

For Metrorrhagia.—Hydrastis canadensis as a uterine styptic has been favorably tried by Schwieger and others, in uterine hemorrhages of all classes.

A Connecticut Doctor has just married the woman with the iron jaw. We trust she will not give him the grip!

Professor Damaschino, of Paris, died in that city on December 22d, of pneumonia, following influenza, in the forty-ninth year of his age. He was Professor of Medical Pathology in the Faculty of Medicine of Paris.

Physicians Concealing a Murder.—A young man, living in Westchester County, was recently brutally murdered by a member of a secret order of Irishmen. Members of the order, it is said, secured two physicians who held an autopsy, and reported that "death was due to acute congestion and œdema of the lungs." The names of these physicians are given in the *Times* as Drs. MacNichol and E. A. Williamson. A subsequent autopsy, held by Drs. L. L. Seaman and W. E. Lyon, showed that death was due to gunshot wound of the peritoneum. The jury signed this remarkable verdict, which had been drawn up by Coroner Mathews: "We find that John Rusk came to his death from acute congestion and œdema of the lungs, this verdict being rendered on the evidence of Drs. MacNichol and E. A. Williamson. We, the jurors, having no evidence, from the testimony taken from the witnesses before us, to prove that Thomas Hart shot John Rusk, therefore it is our duty to exonerate the said Thomas Hart from the affair, or of being the cause of John Rusk's death." Coroner Mathews went to White Plains with this verdict to secure the release of Hart, he having surrendered himself when he learned that Rusk's father had sworn out a warrant charging him with his son's murder; but the Sheriff refused to discharge the prisoner upon a Coroner's verdict.

Obituary.

DAVID CLARK COCKS, M.D.,

NEW YORK.

Dr. David Clark Cocks died in this city, on January 14th, from exhaustion, due to a severe attack of influenza. He was born in Newburg, N. Y., September 17, 1851, and came here with his parents when three years old. He was educated in the public schools and in the College of the City of New York, and recieved his medical degree from the Bellevue Hospital Medical College in 1874.

He was a conscientious, hard-working student in the specialty which he had adopted, and rose to be a surgeon in the New York Eye and Ear Infirmary; he was likewise a member of the New York County Medical Association and the New York Academy of Medicine, besides other societies devoted to the cultivation of his department of medicine.

As a practitioner, on the east side of the city, he was well known, and up to the time of his death had a large clientage. Toward the last he became a rather frequent contributor to the literature of his specialty, having read several papers before medical associations, some of which were published. He took considerable interest in tracheotomy, and afterward in intubation of the larynx, his successes being somewhat above the average. In every sense he promised to become a leading man in the profession when death cut short his career.

Society Reports.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, October 25, 1889.

H. M. Biggs, M.D., Vice-President, in the Chair.

Necrosis of Pancreas.—Dr. H. P. Loomis presented a specimen of "Necrosis of the Pancreas." J. E——, aged forty, of about two hundred and ten pounds in weight, who had been drinking hard for three months, was admitted to Bellevue Hospital, apparently suffering from the effects of his debauch. For two weeks previous to his admission he had a diarrhœa, during which his stools were at times streaked with blood. No history of any previous illness was obtainable.

On admission the patient was mildly delirious. His stools were of a light yellow color, containing small masses of fecal accumulations surrounded by mucus which was streaked with blood. His temperature was normal, and his pulse was rapid but regular. His condition did not warrant a grave prognosis, but seven hours after admission he suddenly went into a state of collapse, and died from heart failure.

The autopsy was made twenty hours after death. The body presented all the appearances of general obesity. The lungs were normal, and the heart appeared normal, although the microscope revealed fatty infiltration of its muscle fibres. The spleen was normal. The liver showed excessive fatty infiltration, and there was moderate degeneration of the epithelial cells of the uriniferous tubes. The intestines, with the exception of congestion of the capillaries in places along the duodenum and ilium, were normal. The pancreas was greatly enlarged, measuring eight inches in length, two and one-half inches in breadth, one and one-eighth inch in thickness, and it weighed twice as much as normal (eight ounces). The pancreatic duct was pervious. Projecting from the surface, and better seen on opening the organ, were greenish-white areas, varying from the size of a pin's head to that of a large olive. The large areas presented a gangrenous appearance, but were dense and contained no fluid. Between these necrotic-looking areas the substance of the pancreas appeared normal.

Microscopical examination showed that the gangrenous-looking masses were areas of coagulation necrosis surrounded by normal tissue. In some of the areas faint outlines of the pancreatic tissue could be made out; in other areas were seen coagulated fibrin and some granular material. From an examination of a number of sections, the most probable explanation of the cause of the necrotic masses in the pancreas was that they were the result of previous hemorrhages into the substance of the organ.

Acute Broncho-pneumonia, with Obscure Symptoms.—Dr. L. Emmet Holt presented specimens from a case of "Acute Broncho-pneumonia, with Obscure Symptoms and Late Development of Physical Signs." The patient, an inmate of the New York Infant Asylum, was a female child, fifteen months old, and died in the seventeenth day of the disease.

During the first week, with a steadily high temperature reaching nearly 105° F. every day, the respirations were only 40 per minute; there was no cough, and repeated examinations of the chest revealed no signs of disease. In the second week the respirations rose to 70 per minute, and varied between 50 and 70 until death. There were now present a few fine râles over both lungs posteriorly, but never any signs of consolidation.

There was mild diarrhœa throughout the disease.

The autopsy showed small spots of broncho-pneumonia widely diffused throughout both lungs, but no large areas of complete consolidation. In the anterior border of the left upper lobe was an area, about the size of a hen's egg, completely hepatized and resembling in gross appearance lobar pneumonia. In this were one or two small abscesses one-quarter inch in diameter, and a small, wedge-shaped spot of gangrene, with the base at the surface of the lung. This communicated with a small bronchus, but no obstruction could be discovered either in the bronchus or pulmonary vessels. The intestines showed moderate colitis, other organs essentially normal.

The principal interest of the case lay in some of its clinical features.

First, a steadily high temperature, due evidently to pneumonia, the respirations being scarcely above the normal for a week. Secondly, the late appearance of physical signs and their meagreness.

A Small Spleen.—Dr. H. S. Stearns presented "A Minute Spleen," removed from the body of a man, aged forty-six, who had died from pulmonary tuberculosis. He was of large size, and had been apparently well nourished. He had suffered from malarial attacks for several years. The spleen was of very small size, measuring only 6.75 c.m. in length by 2.5 c.m. in width and 0.66 c.m. in thickness, and weighing but 5.92 grammes.

A Grape-seed in the Vermiform Appendix.—Dr. H. M. Biggs showed "A Grape-seed in the Vermiform Appendix." The appendix contained a small fecal accretion, in the centre of which was found a grape-seed. It was very rare in his experience to find any nucleus in these fecal masses lodging in the appendix.

Typhoid Fever without Enlargement of the Mesenteric Glands.—Dr. Biggs also presented specimens from a case of the above. The patient had been sick, with a temperature running from 104° to 105° F. At the autopsy general peritonitis was found, with perforation of the intestine. There were numbers of very small ulcers just above the ileo-cæcal valve. The mesenteric glands, however, were not enlarged at all. The spleen also was not enlarged, its weight being about one hundred grammes. The case was, nevertheless, undoubtedly one of typhoid fever.

Incomplete Ventricular Septum was a third specimen discovered at the autopsy of a woman, aged thirty eight, who had died of pulmonary tuberculosis. There was one large opening, about one centimetre in diameter, and in addition a number of small ones. As far as could be learned there had been no symptoms of this condition noted during life.

Injury of Larynx from Electric Light Wire.—The last specimen was one showing "Injury of the Larynx from an Electric Light Wire." The man from whom the specimen was taken was a lineman who had been killed by electricity while repairing some wires on a telegraph pole. One of the wires had come in contact with the face, and sliding down to the mouth had cut into the cheeks. The other had opened the larynx, cutting through the thyroid cartilage and the upper portion of the cricoid, and producing almost complete occlusion of the larynx. At the autopsy of this man, and of others dying from electric shock, the blood was found to be dark and fluid, no clots being found anywhere in the body. Minute hemorrhages were found under the surface of the various serous membranes, and, in addition, there was general congestion of the viscera.

Dr. Roosevelt said that he had seen many cases of perforation of the vermiform appendix, but had never seen any in which there was anything present except fecal matter.

Dr. Biggs said that this was the third case in which he had found a foreign body as a nucleus of the fecal mass in the appendix. In the first there was a raisin-stem, and in the second an apple-seed.

Dr. M. Putnam-Jacobi asked whether in these cases of foreign body in the vermiform appendix there were any peritoneal adhesions drawing open the lumen of the appendix and thus allowing the body to enter.

Dr. Biggs replied that he had seen numerous cases of concretion in the appendix, in which that portion was perfectly normal and where no peritonitis was present.

The Society then went into executive session.

Stated Meeting, November 13, 1889.

WILLIAM P. NORTHRUP, M.D., PRESIDENT, IN THE CHAIR.

Tuberculosis of Various Organs, and Cancer of Stomach.—DR. H. M. BIGGS presented some specimens showing "Tuberculosis of Various Organs and Carcinoma of the Stomach." The patient died from what was supposed to be, and what proved to be, cancer of the stomach. There had been pus in the urine, and there had also been symptoms of vesical trouble, but the exact nature of this disease had not been determined. At the autopsy there was found to be carcinoma of the stomach, the new-growth nearly encircling the pylorus. On removing the right kidney the pelvis and ureter were found to be greatly dilated, and in the lower portion of the kidney was a large cheesy mass, evidently tuberculous in its nature. In the left kidney a similar condition was found, though the lesions seemed to be somewhat more advanced than on the other side. There was greater dilatation of both the pelvis of the kidney and of the ureter on this side. In the bladder was a very large tuberculous ulcer, the size of two silver dollars, which had perforated the wall of the bladder. Around the urethral orifice and at the trigonum were several tuberculous abscesses, and the prostate contained a very large abscess. The lungs did not show any marked tuberculous process. There was pronounced anthracosis in both upper lobes, with an enormous increase in connective tissue, and scattered through both upper lobes, and, to a certain extent, in the lower lobes as well, were small groups of fibroid tubercles. In the intestines, also, were a number of tuberculous ulcers, which were interesting because of the fact that they completely encircled the intestinal wall, and at a number of points had produced considerable stricture of the intestine. This, in the speaker's experience, was an occurrence of considerable rarity.

It is very difficult in these cases, Dr. Biggs said, to determine which is the primary process. In the case here shown there may have been a cheesy process in the lungs from which the disease started, although the appearance of the lesions would seem to point to the genito-urinary tract as the part primarily affected. The combination here shown of general tuberculous lesions and of carcinoma was a very uncommon one.

Syphilitic Disease of the Skull.—Dr. Biggs then presented a second specimen, showing "Syphilitic Disease of the Skull." There was marked thickening of the skull, and an enormously thickened pericranium, and beneath this was a carious process going on. The bone seemed, at first sight, to be hard, but it was not, as the saw cut into it very easily. The skull was asymmetrical. Thickening of the skull from syphilis was not at all common in the speaker's experience. The pericranium in this instance was nearly three-sixteenths of an inch in thickness. There had been no cerebral symptoms at all. The patient had died from acute lobar pneumonia.

The Question of Primary Tuberculosis in the Genito-urinary Tract.—THE PRESIDENT asked the speaker what his opinion was as to the frequency of primary tuberculosis of the genito-urinary tract.

DR. BIGGS replied that it was very difficult in such cases to determine whether the primary process is in the lungs or in the genito-urinary tract, because it is almost impossible to form any conception as to the age of tubercular lesions; there is such a marked tendency sometimes for the process to remain stationary for long periods. There may be a few cheesy masses in the lungs which may remain there with little or no change for years, and yet these may be foci from which are started up, later, extensive tubercular processes in other organs. In the case here shown there may have been some localized tubercular process in the lung which was primary, although the appearance of the lesions, regarding both the extent and apparent duration, would seem to point to the genito-urinary tract as the part primarily affected.

He had long felt that in such cases the probability was largely in favor of the primary process being located in the lungs, and of its forming a focus for secondary deposits in the genito-urinary tract. It was possible to explain development in the genito-urinary tract, then, on the supposition that the tubercle bacilli, having in some way made their way into the circulation, were excreted by the kidneys, and in the process of excretion a local tubercular process was set up either in the kidneys or in some portion of the urinary tract. It is known that after the injection of pyogenic organisms into the blood, they are thrown out in the urine through the kidneys, and foci of suppuration are thus produced in the kidneys, and it seems not improbable that tubercular foci may be produced in the same way. The speaker had never seen a case of genito-urinary tuberculosis without tubercular lesions in other organs, and, although he had formerly regarded some of these cases as primary there, he had now come to consider them as probably secondary, certainly this was usually the case.

It was possible to explain genito-urinary tuberculosis in the female on the supposition that it was transmitted from the male during coitus, where there was tuberculosis of the male genital tract; but this explanation would not account for the development in the male genital tract. A German observer had shown, however, that in advanced primary tuberculosis, where there were no visible tuberculous lesions in the testicles, there might yet be isolated tubercle bacilli there.

DR. JOHN S. ELY said that Dr. Biggs had mentioned the attempt of the kidneys to excrete the bacilli in the blood, but he had not shown clearly how these organs became infected during that process. The speaker believed that the proneness of these organs to infection could be accounted for in a measure by the fact that the capillaries here and in the glands generally were very fine. In passing through these capillaries the bacilli would run a much greater chance of being caught, and, as a result of such detention, tuberculosis would be set up. During secretion, also, there is an increased amount of blood in the parts, and this offers a further explanation of the greater liability to infection, since with the increased volume of blood there would be a greater number of bacilli brought to the kidneys, and thus the chances of some of them being caught would be correspondingly increased.

THE PRESIDENT said that in his autopsies on tuberculous children he had found the lungs most markedly affected in the vast majority of cases, the bronchial glands being also involved. When the lungs were seen to be pretty well sprinkled with tubercles it was his custom to look at the liver and then at the spleen, these two organs being affected with about uniform frequency. When the disease was very extensive, involving perhaps the peritoneum or mesenteric glands in addition to the liver and spleen, he would then look to the condition of the kidneys with some expectation of finding them diseased. But he would not expect to find these organs affected until the tuberculous tide had risen so high as to engulf almost the entire body.

DR. FISHER asked whether any endarteritis of the cerebral vessels was found in the case of syphilis of the skull. In looking up the subject of cerebral syphilis sometime ago he had seen the statement that when other organs were particularly affected the brain was apt to escape.

DR. BIGGS said that there were some endarteritis present.

Mummified Fœtuses.—DR. JOHN S. ELY presented a number of mummified fœtuses, and read a paper on "Mummification." (See p. 90.)

DR. BIGGS asked whether there was any difference between the mummification of a fœtus within the uterus and that occurring in extra-uterine pregnancy.

DR. ELY replied that there was no reason to suppose that there was any difference at the beginning, but calcification was much more common in extra-uterine pregnancy. In answer to a question concerning the significance of the table presented, he said that he thought it

was of but little importance except that it showed that there was some chemical change in the process of mummification. But what the exact nature of the process was he was unable to say.

Round-cell Sarcoma of Brain.—Dr. H. S. Stearns presented a specimen, and a plaster cast made from it by Dr. Byron, of a small "Round-cell Sarcoma of the Brain." The only symptoms that the patient had had were a loss of eyesight and an affection of speech. He could only repeat words, and if asked a question he would simply repeat that and not give an intelligent answer. The tumor was lying on both frontal lobes, about two thirds on the left and one-third on the right. The patient was forty-seven years of age.

Dr. Fisher said that it was impossible, from a simple inspection of the specimen, or of the plaster cast made from it, to tell how much of the brain substance was involved. Apparently the first and second frontal convolutions on both sides were encroached upon. He could not understand how the speech could be affected by a tumor in this situation, except as the result of intra-cranial pressure. The blindness, also, could have been caused only by the general pressure and not directly by the tumor itself.

Dr. Linsley said that he would like to ask the Society if any of the members had ever seen unstriated muscular tissue in a tumor of the brain. At an autopsy recently made at the Presbyterian Hospital a fibro-sarcoma of the brain was found which contained something that had every appearance of unstriped muscular tissue. It was seen by several pathologists, and they all remarked upon the peculiar appearance of the tissue, but were unable to define its true nature.

The Society then went into executive session.

Correspondence.

A PLEA FOR MEDICAL WOMEN.

To the Editor of the Medical Record.

Sir: In a recent editorial in the *Medical News*, on co-education in colleges, the writer strays from his subject to that of hospitals, and describes with horror a case where a young man and woman, medical students, together watched for several hours by the bedside of a woman in labor. It seems the writer has not reflected that, even if the woman student had not been there, the female patient would have remained, and probably also the female nurse. How, then, would an "association of the sexes" have been avoided? How is it ever avoided when the patient is a woman, and presumably sensitive in regard to a hundred details which become entirely forgotten by a medical student?

The coarse remarks which are so frequently made on this subject always overlook the fact that in America the entire movement to reintroduce women into medicine originated in a reaction against the invasion of midwifery by men, and in a desire to save the feelings of female patients, too often wounded in the searching manœuvres of modern medical practice. The first medical school for women was founded in Boston by Mr. Gregory, exactly because his sense of delicacy and decency and propriety had been outraged by the idea of male practitioners waiting at the bedsides of women in labor. The crusade upon which he engaged forty-five years ago is now nearly forgotten.

His energetic denunciations of the indecency and immorality of *men*, in medicine, would now generally provoke a tolerant smile rather than an argument. But it is interesting to see how exactly they resemble and balance the similar denunciations which are still made, and with not a hundredth part the justification, of *women* in medicine practising for their own sex.

The writers upon "men midwives" greatly exaggerated and distorted a situation in which there was, nevertheless, a certain basis of fact for their protests. The writers upon women medical students often wilfully pervert the description of a situation by statements which they cannot but know to be entirely false. They know perfectly well that what women students desire and claim is the full opportunity—still largely denied them—to qualify themselves to practise among women and children. They choose to pretend that this cannot be done without indecorum, *because*, to certain male clinics, and to one or two lectures out of a medical course, it would be indecorous, and therefore undesirable, to admit women—and where women students would not, in the least, desire to go. Surely this is most disingenuous! And all the more because the discussion on decorum deliberately thrusts out of sight the serious difficulties in the way of decorum actually encountered (and overcome) in the daily practice of medicine among women, by men physicians.

I repeat, wherever there is a female patient there can be no impropriety in the presence of a female student or physician. The real difficulty lies on the other side, and though I fully admit that it is in the interest of everyone that this difficulty should be overcome; that men physicians should attend women when necessary, in all kinds of cases, and that a popular outcry on such a subject can only do harm, and intensify both physical and moral suffering—yet it should also be recognized that such modern prerogative is a purely intellectual necessity; that the "moral" and "æsthetic" conditions upon which writers lay stress all tend toward the exclusive employment of women. For men to invoke these, therefore, is, logically, suicidal.

A writer who will misquote from an article printed in the same issue of his own paper, as unintelligently as the editor of the *Medical News* has done in this editorial, cannot perhaps be expected to be more accurate in regard to wider issues.

Mary Putnam-Jacobi, M.D.
110 West Thirty-fourth Street, New York.

New Instruments.

A SELF-RETAINING NASAL SPECULUM.

By L. L. Palmer, M.D.,
Toronto, Ont.

My only excuse for adding to the armamentarium is that my confrères on rhinological operations may, if they wish, be possessed of a speculum that answers indications that are not answered by any other that I have seen, and will neither fail nor annoy them in the midst of an operation.

It consists of a modification of an eye speculum, and when introduced stands from the nostril upward over the nose.

Its grip is just within the muscular rim of the naris, not reaching up to the tender mucous membrane, nor to the cartilage, and therefore is easy for the patient while it dilates to the utmost.

By its position and shape the upper part or ring may be held by the thumb and finger of the left hand, and the point of the nose raised and turned to right or left, giving a full and perfect view of interior. The advantage of this will be appreciated by the operator, who has so often found his finger besmeared with blood and secretion. I have a leather band to put around the head, with which, and a cord and hook attached to the upper part of the speculum, the point of the nose may be raised and held in position, thus giving freedom to both hands.

This speculum, when once in position, will remain till it is removed; it will not fly out.

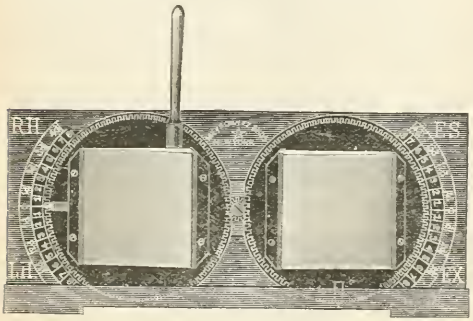
For ordinary and frequent examinations Bosworth's speculum, or some modification of it, may be found more convenient and easy of adjustment, but for operations I find this one a continual satisfaction.

A NEW SLIDE WITH ROTATING PRISMS FOR THE PHOROMETER.

By GEORGE T. STEVENS, M.D.,

NEW YORK.

In the description of the phorometer published in the Medical Record, May 5, 1888, two slides carrying prisms were described. One of these slides carried "two prisms placed horizontally with their bases in and of sufficient strength to induce homonymous diplopia." The other slide carried a single prism with its base down. In testing the eye-muscles for deviating tendencies from the horizontal plane (hyperphoria), the slide with two prisms was used, and any deviation of the images from the horizontal plane was to be corrected by prisms from the case



of trial-glasses, the strength of the prism required for this purpose determining the degree of the deviating tendency.

In like manner, with the single-prism slide, lateral deviating tendencies were to be determined.

Great as were the advantages of the phorometer, with these slides, over other methods previously employed, it was soon found that the instrument could be much improved by the use of rotating prisms, one slide of which would serve the purpose of both of those at first used.

During the whole of the past year I have used such a slide and have found it extremely convenient, and that it can be used with greater expedition and with greater assistance in the search for the extent of deviating tendencies. By making a gradually increasing correction a more accurate result can be obtained than when prisms of different strengths are made to replace each other, a process which permits the muscles time to regain the excessive tension which may have been, for a moment, surrendered.

The slide as now used is represented in the accompanying figure. It contains two cells, in each of which rotates a disk, each disk carrying a prism of 4°. Each disk is furnished with a border of teeth or cogs. A small gear-wheel placed between the two disks communicates the movements from one disk to the other.

Around the outer part of the border of each cell is a narrow raised band on which is marked a scale of degrees increasing from the centre each way from 0° to 8°, the numbers representing the refracting *angle* of prism, the method of notation now commonly used. A second scale, just outside the first, is similarly graduated according to the new system of designating prisms by the refracting *power* or number of degrees of minimum deviation. This scale is made to correspond to the standard recommended by Dr. Jackson and others to the American Ophthalmological Society at its session in 1888. The numbers in this scale are marked 1°d, 2°d, etc. (The engraving fails to reproduce the numbering or the corresponding spaces for the degrees exactly according to the model furnished. These slight imperfections are, however, in the engraving, of no practical consequence.)

When the prisms are placed so as to stand exactly horizontal the pointer (seen in the cut at the left-hand side of the left disk) points to 0° of each scale of that side.

Rotating the disk by means of the lever so that the pointer moves above 0°, the number of degrees passed over marks the extent of right hyperphoria. In like manner, carrying the pointer below the 0° point marks left hyperphoria.

Bringing the lever, which in the cut is seen to stand vertically, to the horizontal position, the right-hand prism stands with its base down, the left with its base up, and, if the pointer is exactly at 0° of the right-hand scale, the prisms are precisely vertical. Rotation causing the pointer to move up or down marks esophoria or exophoria, respectively.

Thus no change of slide is required, the change from horizontal to vertical prisms being made instantly. The scales mark up to 8°. Beyond this prisms from the trial-case can be used if required.

It sometimes happens that, by virtue of excessive abduction power, the patient overcomes the prisms of the slide, uniting the images. To remedy this, a pair of supplementary prisms are made to slip into the cell behind the permanent glasses. As these supplementary prisms are stationary, the others only rotating, they do not affect the readings of the scales. As a rule, in cases short of actual strabismus, moving the phorometer a foot or more in advance of the eyes serves to prevent the union of images.

The scales represent a far greater degree of accuracy and uniformity than the prisms found in the trial-cases in common use, and the convenience of the two scales is apparent.

The slide is made by Messrs. Meyrowitz Brothers.

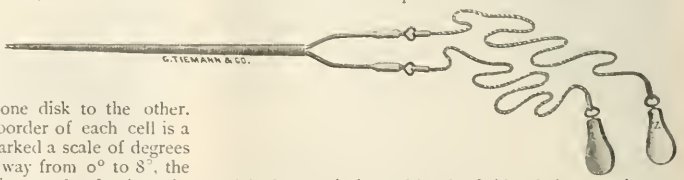
A NEW ELECTRIC PROBE.

By R. L. WATKINS, M.D.,

NEW YORK.

Seeing recently an article in one of the medical papers on electric probes reminded me of the one represented in the cut, which I made several years ago.

It consists of a probe and battery. The former is made of two semi-cylindrical pieces of steel, about one-sixteenth of an inch in diameter and five inches long. These are placed with the flat surfaces toward each other, separated only by the insulation, of which we have a great variety; *e.g.*, rubber, zylonite, silk, paraffine, japan, etc. When the pieces of steel are fastened together, either with silk or insulated rivets, the separation of the ends of the probe should be scarcely perceptible—not more than one one-hundredth of an inch apart.



The battery is formed by the fluids of the mouth coming in contact with a piece of copper and zinc, each of which is connected by means of wires to the ends of the probe.

To operate, zinc and copper are placed in the mouth, one on either side, between the teeth and cheek; the

tongue is now placed against the zinc. When the two ends of the probe touch the metal simultaneously the circuit is completed, a flash of light will be perceived, at the same time the electricity will be tasted on the zinc.

It is not always possible to get the flash, but the taste is invariable, unless the connections are at fault.

The advantages are: 1. No telephone is required. 2. No portable battery is necessary. 3. Simplicity; for the two dissimilar metals can be picked up anywhere, *e.g.*, a ten-cent piece and a penny are generally at hand in one's pocket.

As an illustration, I would cite a patient who recently came to my office with a needle broken off in her hand. I was unable to find it with the ordinary probe, but, applying my electric one, I was soon able to locate and extricate it.

Probes on this principle may be made many ways, as two pieces of copper wire may be insulated from each other and twisted on themselves spirally like a screw, in which case the circuit will be completed by coming in contact with the sides of the probe, as well as in contact with the points.

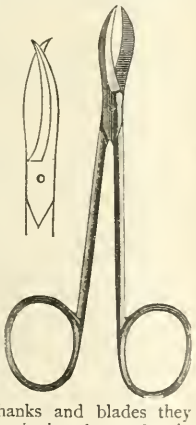
312 West 145th Street.

FRÆNUM SCISSORS.

By G. M. PEASE, M.D.,

San Francisco, Cal.

Having recently to operate for a case of "tongue tie" upon an unusually refractory child, I especially noticed the difficulty of snipping the frænum with ordinary scissors; the tissues would slip away, and instead of one effort several were necessary before the restricting fibres were all cut.



It occurred to me that with scissors made to cut from the points toward the operator, the slipping away would be obviated. Accordingly, a drawing was sent to Messrs. Reynders, who have made some scissors which admirably accomplish the desired result. The points being once engaged in the tissue, there can be no slipping away, and no matter how refractory the patient, one closure of the blades ends the operation.

The size is that of the ordinary iris scissors, but with longer shanks and blades they would serve a good purpose for snipping the uvula; in fact, they might be practically used in a variety of cases.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 12 to January 18, 1890.

De Witt, Calvin, Major and Surgeon. By direction of the Secretary of War, the leave of absence granted in S. O. 146, December 21, 1889, Department of Dakota, is extended to include February 20, 1890. Par. 5, S. O. 12, Headquarters of the Army, A. G. O., January 15, 1890.

Black, Charles S., Captain and Assistant Surgeon. The leave of absence for seven days' granted by the commanding officer, Fort Du Chesne, Utah, is hereby extended twenty-three days, with permission to apply to the Adjutant-General of the Army for an extension of three months. Par. 3, S. O. 1, Department of the Platte, January 1, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending January 18, 1890.

Scott, H. B., Passed Assistant Surgeon. Granted extension of sick leave for one year from February 1st.

Woods, George W., Medical Inspector. Detached from Mare Island Navy Yard, and ordered to the Charleston.

Derr, Ezra, Surgeon. Detached from the Nipsic, and ordered home.

Dickinson, Dwight, Surgeon. Detached from Mare Island Hospital, and ordered to the Navy Yard.

Baldwin, L. B., Passed Assistant Surgeon. Ordered to the Michigan.

Cordeiro, F. J. B., Passed Assistant Surgeon. Detached from Mare Island Hospital, and ordered to the Nipsic.

Edgar, J. M., Passed Assistant Surgeon. Detached from the Michigan, and ordered to the Naval Hospital, Mare Island, Cal.

Bailey, T. B., Assistant Surgeon. Detached from the Dale, and ordered to the St. Louis.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 18, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	10	2
Scarlet fever	75	9
Cerebro-spinal meningitis	0	0
Measles	70	2
Diphtheria	94	24
Small-pox	0	0
Varicella	5	0
Cholera	0	0

Easy Deglutition in Cases of Laryngeal Phthisis.—At the last meeting of the British Laryngological and Rhinological Association, Dr. Norris Wolfenden made a very useful suggestion, discovered in the first instance by a patient, whereby the subjects of that painful malady, laryngeal phthisis, may be enabled to swallow without the excruciating pain which usually characterizes the act. The plan consists in placing the patient on his belly on a sofa with the head hanging down. He can then, by means of a tube, or even directly from a cup, imbibe nourishment in liquid form exempt from inconvenience. The success of this plan was testified to by several speakers, and it is worth making known, for it affords a means of removing one, at least, of the horrors of this dire and fatal affection.—*Medical Press and Circular.*

The Wilkesbarre Hospital.—At the annual meeting of the Directors of the Wilkesbarre (Penn.) Hospital, held on January 6th, it was stated that the endowment fund now amounts to $10,744.77. The balance in treasury at the end of the year was $4,344.73, a gain of nearly three thousand dollars over that of the year previous.

Proper Names in Neurological Literature.—Aran-Duchenne's disease: Progressive muscular atrophy. Argyll-Robertson's sign: Absence of pupil reflex. Addison's keloid: Morphœa. Addison's disease: Bronzed skin. Basedow's disease: Exophthalmic goitre. Bell's palsy Paralysis of the seventh pair. Bell's spasm: Convulsive facial tic. Bergeron's disease: Rhythmic localized chorea. Brown-Séquard's syndrome: Hemiparaplegia, with hemianæsthesia of the other side. Cazenave's lupus: Lupus erythematosus. Charcot's disease: Ataxic arthropathy.

Charcot's disease: Lateral amyotropic sclerosis. Cheyne-Stokes' respiration: Uræmic respiration. Dressler's disease: Paroxysmal hæmoglobinuria. Dubini's disease: Electric chorea. Duchenne's disease: Locomotor ataxy. Duchenne's palsy: Pseudo-hypertrophic palsy. Duhring's disease: Dermatitis herpetiformis. Dupuytren's disease: Retraction of the palmar aponeurosis. Erb's palsy: Paralysis of the roots of the branchial plexus. Erb-Charcot's disease: Spasmodic tabes dorsalis. Friedreich's disease: Hereditary locomotor ataxy. Gerlier's disease: Paralysant vertigo. Gibert's pityriasis: Rosy pityriasis. Gibbon's hydrocele: Hydrocele with voluminous hernia. Gilles de la Fourette's disease: Motor inco-ordination with echolalia and coprolalia. Graves' disease; Exophthalmic goitre. Graefe's sign: Dissociation of the movements of the globe of the eye and of the upper eyelid. Hebra's disease: Polymorphous erythema. Hippocrates' facies: Agonized facies of impending fatality. Jacksonian epilepsy: Cortex epilepsy. Kopp's asthma: Thymic asthma; spasm of the glottis. Leber's disease: Hereditary optic atrophy. Menière's disease: Labyrinthine vertigo. Morvan's disease: Analgesic paresis of the extremities. Parrot's disease: Syphilitic pseudo-paralysis. Parrot's sign: Dilatation of the pupils on pinching the skin. Paget's disease: Hypertrophic, deforming osteitis. Parkinson's disease: Paralysis agitans. Parry's disease: Exophthalmic goitre. Pott's aneurism: Anastomotic aneurism. Pott's fracture: Fracture of the fibula by divulsion. Pott's disease: Vertebral osteitis. Raynaud's disease: Symmetrical asphyxia of the extremities. Romberg's sign: Unsteadiness of ataxics in darkness. Romberg's trophoneurosis: Facial hemiatrophy. Rosenbach's sign: Abolition of abdominal reflex. Salaam, tic de: Convulsive salutation. Stokes' law: Paralysis of muscles subjacent to inflamed serous or mucous membranes. Sydenham's chorea: Common chorea. Thomsen's disease: Muscular spasms at beginning of voluntary movements. Trousseau's disease: Vertigo-e-stomacho-leso. Werlhoff's disease: Purpura hæmorrhagica. Westphal's sign: Abolition of patellar reflex.—*Alienist and Neurologist.*

Black-Tongue Fever.—It is reported that an epidemic of so-called black-tongue fever has appeared near Morgantown, W. Va. Four members of one family are said to have died from it, and much alarm prevails in the neighborhood. There was an epidemic of what was called black-tongue fever in some parts of the country in the winter of 1842–43. It is generally supposed to be a malignant form of typhoid fever.

The King of Portugal has a staff of nine physicians to look after his precious health.

A Weekly Rest Congress was recently held in Paris, under the presidency of M. Léon Say, the object of which was to urge the general observation of one day of rest in the seven, which is regarded by the members of the congress as necessary for the preservation of the health of man as well as of beast.

Diphtheria Epidemic in Newfoundland.—Diphtheria has been epidemic in Newfoundland for nearly two years past, it having appeared in St. John's in that form in March, 1888. During that time the disease has invaded over 1,000 families, the whole number of cases being 2,170, and of deaths 427. The Board of Health has done all it could to prevent the spread of the disease, but its work has been hampered greatly by the strange indifference of the people, who seemed either to regard the affection as not contagious or to despair of preventing its spread by means of isolation and disinfection.

Cholera among Medical Men.—During the past year five surgeons have died in India from cholera contracted in the discharge of their duty, viz., Surgeons M. Gaisford, Jolliffe, Kelly, Polden, and Dr. Smith.—*Indian Medical Journal.*

Antiquity of the Guillotine.—It has generally been supposed that the guillotine received its name from Dr. Guillotin, a deputy in the French Constitutional Convention, but this is stated by a physician of Lyons, who has been studying up the cheerful subject, to be erroneous. The real inventor of the instrument is not known, but the one who first recommended its use in France was Dr. Louis, secretary of the Surgical Society, who made a favorable report upon its efficacy on March 20, 1792. Guillotin was the founder of the Academy of Medicine, and an estimable physician, who did not deserve the fate of being known to posterity only as the inventor of an instrument for destroying the lives of his fellow-men. The invention of the instrument should not, however, be credited to any medical man, for it was in use, long before the French Revolution, in Italy and Spain, as well as in England and some parts of Germany.

The Cholera continues to claim many victims in Persia, and the Russian authorities in Central Asia are putting forth every effort to confine the disease within the boundaries of that country.

Laboratories.—New York and Brooklyn have four well-equipped pathological and biological laboratories. The trouble is now to find workers in them. "The harvest is rich, but the laborers are few."

Sundown Doctors is the title given to clerks in the Departments at Washington who have taken medical degrees, and who try to practise after they get home from their clerical work.

A New Operation for Epilepsy, recommended by Dr. William Alexander, of Edinburgh, consists in the removal of the cervical ganglia of the sympathetic. Dr. Alexander has abandoned his operation for ligature of the vertebrals in epilepsy.

The Medical Society of the State of New York.—PROVISIONAL PROGRAMME OF PAPERS FOR THE EIGHTY-FOURTH ANNUAL MEETING, to be held in the City Hall, at Albany, on Tuesday, Wednesday, and Thursday, February 4, 5, and 6, 1890.

TUESDAY, MORNING SESSION (9.30 A.M.). President's Inaugural Address, Appointment of Committees, Executive Business. *Papers:* "The Use of Belladonna in Spasmodic Contractions of the Neck during Labor," by S. S. Cartwright, of Roxbury; "The Time-element in Saving the Perinæum," by Robert L. Dickinson, of Brooklyn; "A Case of Extra-uterine Pregnancy," by H. D. V. Pratt, Jr., of Elmira; "What are the Rational Limitations of Intra-uterine Therapeutics," by Andrew F. Currier, of New York; "Remarks on the Use of the Uterine Curette," by Walter B. Chase, of Brooklyn; "Cancer of the Body of the Uterus," by H. C. Coe, of New York; "The Indications for Operation in Disease of the Uterine Appendages," by Egbert H. Grandin, of New York; "Seven Consecutive Successful Cases of Intubation of the Larynx for Diphtheritic Croup," by Wm. Hailes, Jr., of Albany. AFTERNOON SESSION (2.30 P.M.). "On the Treatment of Eczema in Elderly People," by L. Duncan Bulkley, of New York; "An Original, Simple, and Effective Method for Treatment of Scabies," by Samuel Sherwell, of Brooklyn; "On a Case of Leprosy Apparently Cured," by George Henry Fox, of New York; "Acute Dacryocystitis," by David Webster, of New York; "Spectra of Blood in Certain Eye Diseases," by Lucien Howe, of Buffalo; "Cataract," by Francis Valk, of New York; "A Case of Meningocele Resembling Degeneration of the Lachrymal Sac," by W. F. Mittendorf, of New York; "Purulent Ophthalmia," by J. A. Andrews, of New York. EVENING SESSION (7.30 P.M.). "The Thomas Hip-splint," by J. F. Ridlon, of New York; "A Ready Method for Counter-traction at the Knee," by Henry Ling Taylor, of New York; "The Pendent Limb

in the Treatment of Joint Diseases of the Lower Extremity," by A. B. Judson, of New York; "The Prevention of Tuberculous Bone Lesions," by V. P. Gibney, of New York; "The Question of What Produces and What Prevents Anchylosis of Joints," by A. M. Phelps, of New York; "A Statistical Paper on Club-foot," by W. R. Townsend, of New York.

WEDNESDAY, MORNING SESSION (9.30 A.M.). Executive Business. "Fever and its Treatment," by Alfred L. Loomis, of New York; "A Case of Uræmic Convulsions in New-born—Recovery." by A. Hutchins, of Brooklyn; "Functional Abuminuria, with Three Years' Observation of a Case," by Eli H. Long, of Buffalo; "The Importance of a State or National Registration of Births," by Alexander Hadden, of New York; "Isolation of Consumptives," by P. H. Kretzschmar, of Brooklyn; "The Production of Tubular Breathing in Solidification and Other Conditions of the Lungs," by Charles Cary, of Buffalo; "The Physiological, Pathological, and Psychological Bearings of Sex," by Samuel S. Wallian, of New York; "A Study of Alcoholism in Bellevue Hospital," by C. L. Dana, of New York; "Early Diagnosis of Tubercular Meningitis," by W. P. Northrup, of New York; "Recent Lunacy Legislation affecting the General Practitioner," by E. H. Howard, of Rochester; "The Prompt Recognition and Treatment of Syphilis of the Brain," by J. Leonard Corning, of New York; a paper, subject not yet announced, by Dr. E. F. Brush, of Mount Vernon. AFTERNOON SESSION (2.30 P.M.). "Address on Surgery," by Alfred Mercer, of Syracuse; "The Diagnosis and Treatment of Fractures through the Anatomical Neck of the Humerus," by C. A. Powers, of New York; "Report of Five Cases of Suprapubic Cystotomy for Tumors of the Bladder and Vesical Calculi," by A. Vander Veer, of Albany; "Reflections upon Some Cases of Nephro-lithotomy," by E. L. Keyes, of New York; "A Rarely Described but Common Form of Cystitis in Women," by Robert T. Morris, of New York; "An Extension Splint for the Treatment of Fractures of the Leg, the Arm, and Forearm," by P. R. Furbeck, of Gloversville; "A History of Two Hundred and Fifty Cases of Excision of Superior Maxilla," by J. D. Bryant, of New York; "Treatment of the Diseases of the Rectum Based upon Anatomical Study," by Seneca D. Powell, of New York. EVENING SESSION (8 P.M.). Anniversary Address, by the President. Annual Dinner of the Society (9 P.M.).

THURSDAY, MORNING SESSION (9.30 P.M.). "Methods of Examining the Post nasal Pharynx and Surgical Treatment of Diseases of that Cavity," by C. C. Rice, of New York; "A Case of Papilloma of the Vocal Chords," by Charles N. Cox, of Brooklyn; "The Prevention of Tubercular Laryngitis," by B. F. Westbrook, of Brooklyn; "Nasal Intubation," by D. H. Goodwillie, of New York; "Nasal Epilepsy," by John O. Roe, of Rochester; "Some Practical Suggestions concerning Antrum Disease," by F. H. Bosworth, of New York; "Chronic Nasal Catarrh: Its Causes, Course, and Cure," by O. B. Douglas, of New York; "Naso-pharyngeal Epithelioma," by Sidney Allan Fox, of Brooklyn; "The Etiology and Radical Treatment of Nasal Myxomata," by W. C. Jarvis, of New York.

OFFICERS OF THE SOCIETY.—*President*—Daniel Lewis, New York; *Vice-President*—Alfred Mercer, Syracuse; *Secretary*—F. C. Curtis, Albany; *Treasurer*—C. H. Porter, Albany. *Committee on Business* — George Henry Fox, Henry Flood, Herman Bendell. *Committee of Arrangements*—Samuel B. Ward, Edward L. Partridge, C. S. Merrill. *Committee on By-Laws*—F. A. Castle, A. R. Simmons, F. C. Curtis. *Committee on Hygiene*—E. V. Stoddard, A. N. Bell, W. B. Brown, J. P. Creveling, W. H. Bailey, W. C. Bailey, E. F. Brush. *Committee on Legislation*—D. B. St. John Roosa, B. Pillsbury, M. J. Lewi. *Committee on Ethics*—A. Jacobi, A. Matthewson, H. R. Hopkins. *Committee on Prize Essays*—G. F. Shrady, F. P. Foster, Eugene Beach. *Committee on Publication*—F. C. Curtis, J. O. Roe, O. B. Douglas, C. H. Porter.

The Late Dr. David Clark Cocks.—The New York Ophthalmological Society has been informed of the death of Dr. David Clark Cocks, who has for some years been one of its members and was just elected Vice-President.

Resolved, That we hereby express our sincere and deep regret at his loss, and our tribute of affection and respect for his memory. By faithful and industrious labor he had reached a position of honor among the community and in the profession. He commanded the confidence of all who knew him by the fidelity and uprightness of his character, by the soundness of his judgment, by his skill, and by the conscientious pains which he brought to bear upon all that he undertook.

He was discreet, thorough, observant, and never spared himself if he might serve the distressed. He was imbued with a love of knowledge, and was not only versed in medical literature but was capable of discerning new facts and suggesting new methods in clinical experience.

We have lost a tried and true friend, an excellent coworker, and one for whom the future promised even more than the past had realized.

To his family we offer our sincere sympathy and respectful condolence.—PETER A. CALLAN, RICHARD H. DERBY, J. B. EMERSON, *Committee.*

The Digestibility of Boiled Milk.—It is now very regularly recognized, both by medical men and by the more highly educated section of the community, that it is a wise precaution to boil both water and milk before using them as beverages, and the practice is becoming very common. The growth of pathogenic organisms in these fluids, especially in milk, is often very rapid, and thus diseases may be transmitted from one place to another. The temperature of boiling water puts an end to the life of the microbes, and also to the danger of infection. Another reason why boiled milk is so much used, especially in infant feeding, is that it is supposed to be more easily digestible than fresh milk. If, however, we can draw correct deductions from dogs to babies, it would now appear that this belief in the superior digestibility of boiled milk is founded on error. Dr. Randnitz, of Prague, has recently published, in Hoppe-Seyler's *Zeitschrift für physiologische Chemie*, certain very striking experiments on this subject. He admits, what anyone may confirm for himself, that milk that has been boiled does not, on cooling and the subsequent addition of rennet, form a large coherent clot as does fresh milk; but a flocculent precipitate of casein is produced instead. He shows, however, by analysis of the milk itself, and of the urine and fæces, that much less nitrogenous material is absorbed from milk that has been boiled than from the same milk when fresh. The digestibility of fat is apparently unaltered by boiling; the following figures, however, illustrate the fact just alluded to as to the difference of digestibility of the proteid materials: In three days, 15.6 grammes of nitrogen were given in the form of fresh milk; of this quantity, 13.3 per cent. was found in the fæces; the nitrogen of the urine accounted for 77.3 per cent., so that 9.4 per cent. was retained in store by the growing animal. The animal was next fed on boiled milk; and 10.4 grammes of nitrogen was given in that form in two days; 18.6 per cent. of this was found in the fæces, 75.7 in the urine; so that only 5.7 per cent. was assimilated. The belief in the superior digestibility of boiled milk is, however, so widespread, that we should like to hear of the confirmation of the above remarkable results before we recommend mothers to leave off what is, from other points of view, the very praiseworthy custom of boiling the milk they give to their children.—*The British Medical Journal.*

False Neurasthenia.—Dr. Myrtle writes as follows upon this subject: "We may find symptoms in every respect similar to those of true neurasthenia, and it will take you all your time and patience, as well as tact, to detect the sham from the real. If you hark back a bit, you will find that as a child she showed temper; as she

grew, she became fitful, hysterical, and given to the sulks; craved for sympathy, and exhibited little or no sympathy for others. On questioning her, she describes her sufferings in forcible language. She can neither eat nor sleep; has not an atom of strength; suffers from the most dreadful pain, most fearful headaches, and frightful spasms; and should you suggest any portion of her body, from her head to her heels, as possibly exempt from pain, she often resents the insinuation, and declares that is the very part where she suffers most. While she tells you all this in a sort of whine, her features don't show indications of any agony, and, if you watch her, you will find that she overacts her part Utterly indifferent to the anxiety of parents and friends, or to the trouble and expense she causes, she seemingly finds gratification in watching the unwearied efforts of those around her in doing their best to comfort and help her. While putting on an air of the most abject listlessness while you look at or speak to her, if you talk at her you will learn that she has both eyes and ears; if you assist her in any way she makes herself as helpless as she can—a dead weight. These creatures not only deceive everyone around them, but in time they succeed in deceiving themselves. Were it not so, I cannot understand how they continue p'aying such a sorry game for so long, and with so much strain and fixity of attention, to the exclusion of everything else, as I have seen them do. If we push our inquiries a little further, we generally discover that there is some obliquity of the moral sense; an ungratified whim or disappointed affection at the bottom. —*The Provincial Medical Journal.*

The Hospital Corps in the United States Army.—Congressman Stivers, of New York, has introduced in the House a bill amending the law entitled "An act to organize the hospital corps of the army of the United States, to define its duty, and to fix its pay." The amendment proposed provides that the pay of the privates of the hospital shall be $19 per month, with the increase, on account of length of service, as is now or may hereafter be allowed by law to other enlisted men. It is claimed that the members of the hospital corps are the hardest worked and poorest paid of any men in the army.

Medical Photographers.—The ability to take pictures of one's cases is coming to be a very common accomplishment of the younger generation of physicians. It is said that there are amateur photographers attached to the staff of nearly every London hospital.

International Medical Congress, Berlin, 1890.—I. The Tenth International Medical Congress will be opened in Berlin on Monday, August 4, 1890, and will be closed on Saturday, August 9th. II. The Congress shall consist of legally qualified medical men who have inscribed themselves as members, and have paid for their card of membership. Other men of science who interest themselves in the work of the Congress may be admitted as extraordinary members. Those who take part in the Congress shall pay a subscription of 20 marks (one pound sterling, or $5) on being enrolled as members. For this sum they shall receive a copy of the "Transactions," as soon as they appear. The enrolment shall take place at the beginning of the Congress. Gentlemen may, however, be enrolled as members by sending the amount of the subscription to the Treasurer,[1] with their name, professional status, and residence appended. III. The object of the Congress is an exclusively scientific one. IV. The work of the Congress will be discharged by eighteen different sections. The members shall declare upon enrolment to which section or sections they intend more particularly to attach themselves. V. The Committee of Organization shall, at the opening sitting of the Congress, suggest the election of a Definite Committee (or Bureau), which shall consist of a President, three Vice-Presidents, and of a number—as yet undetermined—of Honorary Presidents and Secretaries. At the first meeting of each section a President and certain number of Honorary Presidents shall be elected; these latter shall conduct the business of the sections in turn with the Presidents. On account of the different languages employed, a suitable number of Secretaries shall be chosen from among the foreign members. The duties of the foreign Secretaries shall be confined to the sittings of the Congress. After the termination of the Congress the editing of the "Transactions," shall be carried out by a committee specially appointed for this purpose. VI. The Congress will assemble daily, either for a general meeting or for the labors of the different sections. The general meetings will be held between eleven and two o'clock. Three such meetings will take place. The time for the sittings of the various sections will be fixed by the special committee of each section, it being understood, however, that no such sittings are to take place during the hours allotted to the general meetings. Joint sittings of two or more sections may be held, provided that the Bureau of the Congress can offer suitable rooms for such sittings. VII. The general meetings shall be devoted to (*a*) transactions connected with the work and general management of the Congress; (*b*) speeches and communications of general interest. VIII. Addresses in the general sittings, as well as in any extraordinary meetings which may be determined upon, can only be given by those who have been specially requested by the Committee of Organization. Proposals relative to the future management of the Congress must be announced to the Committee of Organization before July 1, 1890. The committee shall decide whether these proposals are suitable to be introduced for discussion. IX. In the sittings of the sections, questions and problems will be discussed which have been agreed upon by the special Committees of Organization. The communications of those appointed by the committee to report on a subject shall form the basis of discussion. As far as time allows, other communications or proposals, proceeding from members and sanctioned by the Committee of Organization, may also be introduced for discussion. The bureau of each section decides as to the acceptance of such offered communications, and as to the order in which they shall come before the meeting, always provided that this point has not been already determined in the sitting itself by a decree of the section. Scientific questions shall not be put to the vote. X. Introductory addresses in the sections must, as a rule, not exceed twenty minutes in length. In the discussions no more than ten minutes are allowed to each speaker. XI. All addresses and papers in the general and sectional meetings must be handed over to the Secretaries, in writing, before the end of the sitting. The Editorial Committee shall decide whether—and to what extent—these written contributions shall be included in the printed "Transactions" of the Congress. The members who have taken part in the discussions will be requested to hand over to the Secretaries, before the end of the day, in writing, the substance of their remarks. XII. The official languages of all the sittings shall be German, English, and French. The regulations, the programme, and the agenda for the day will be printed in all three languages. It will, however, be allowable to make use of other languages than the above for brief remarks, always provided that one of the members present is ready to translate the gist of such remarks into one of the official languages. XIII. The Acting President shall conduct the business of each meeting according to the parliamentary rules generally accepted in deliberative assemblies. XIV. Medical students, and other persons, ladies and gentlemen, who are not physicians but who take a special interest in the work of a particular sitting, may be invited by the President or be allowed to attend the sitting by special permission. XV. Communications or inquiries regarding the business of separate sections must be addressed to the managing members thereof. All other communications and inquiries must be directed to the General Secretary, Dr. Lassar, Berlin NW., 19 Karlstrasse.

[1] Treasurer's address: Dr. M. Bartels Berlin SW., Leipzigerstrasse 75. Kindly inclose a visiting-card.

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Original Articles.

INTUSSUSCEPTION IN A CHILD OF SIX MONTHS: LAPAROTOMY—EVISCERATION—RECOVERY.

BY FREDERIC KAMMERER, M.D.,

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THERE can be no doubt that the past years have been very progressive ones in abdominal surgery. The work of Dr. Senn in intestinal anastomosis, for example, has materially widened the field of operative interference in many abdominal cases, and will still continue to do so as our experience with the method increases. But surgeons will occasionally still feel the want of precision in our diagnostic, as well as therapeutic, resources in that vast class of cases which are of the greatest interest to the surgeon proper, *i.e.*, intestinal obstruction. I refer mainly to the localization of the seat of obstruction and the advisability of a large abdominal incision with eventration, or of a small one without it. Theoretical reasoning will advance our knowledge to no great extent in this direction, but well-observed cases, compiled in large statistics, are the only means, assisted by the results of experiments, of determining such therapeutic problems, which, until then, must be left to the personal feeling and experience of the surgeon. The following case has perhaps some bearing on these points:

J. Q——, a child of exactly six months, was taken ill on Saturday night with pain in the abdomen. Toward Sunday morning tenesmus set in, accompanied during the day by evacuation of blood per anum. Vomiting began on Sunday morning. No fecal matter had escaped since Saturday night. Dr. H. Kudlich, of this city, saw the patient on Sunday evening, and diagnosed an intussusception. The symptoms continued with more or less severity until I saw the patient on Tuesday at noon. At that time, about sixty hours after the child had first been taken ill, there was present a slight degree of collapse. Vomiting had occurred only once on that day, tenesmus was less marked, and the bloody discharges had ceased. No gases or fæces had passed. There was little tympanites. The child was restless and seemed somewhat in pain; the abdomen was soft and compressible, and on palpation nothing abnormal could be detected. Digital examination per rectum seemed, at first, to confirm the results of external palpation. However, on introducing the finger high up into the rectum and practising bimanual palpation, it seemed to me as if there existed a thickening of some part of the intestine to the right of the median line, near the rim of the pelvis, but this, I must concede, was very indistinct. The child was put under chloroform, and an attempt was made to overcome the obstruction by water enemata under high pressure in the inverted position. Although large quantities were used, no influence was evidently exerted upon the intussusception, as the violent tenesmus and the expulsion of the injected fluid with only mucus and traces of blood proved when the patient began to recover from the narcosis. Laparotomy was now suggested as the only measure available, and the child transferred to the German Hospital. There, Dr. Caillé, who happened to be present, saw the little patient with me. That gentleman also felt, per rectum, that seeming thickening of the walls of the gut, but was more positive in locating there the seat of trouble than I had been. He also kindly called my attention to an area of tympanitic percussion-sound of about the size of a silver half-dollar, about two inches above the inner half of Poupart's ligament. The child was now once more narcotized, with a view to a final attempt of restoring the continuity of the intestinal canal with enemata, and in this state I made another rectal examination. Now I immediately and distinctly felt a tumor, movable to a certain extent, the size of a hen's egg, soft to the touch, which, there was no doubt, was continuous with the intestine. It lay in the cæcal region. The advantages of an examination in narcosis in all cases of abdominal disease, pending surgical interference, was again brought home to me, and I was reminded of the service often rendered by such an examination in cases where we believe our diagnostic resources have been exhausted without an anæsthetic. I am not referring here merely to those cases in which a diagnosis is impossible unless the patient be narcotized, but to such where we have examined the patient under the most favorable conditions (lax abdominal walls, moderate development of adipose tissue, etc.), without the anæsthetic, and are then surprised at being compelled to modify our diagnosis considerably after applying the same. No result having again been obtained by water injections, laparotomy was immediately performed, ether being substituted for chloroform. I first made an incision through the linea alba from a little below the umbilicus to the symphysis.

After opening the abdominal cavity I introduced two fingers, in the hope of immediately finding what I had so distinctly felt by bimanual palpation. In this I was disappointed. After a few moments' useless search, fearing that too much manipulation of the intestines would increase the danger of shock without the guarantee of success, I quickly prolonged the incision beyond the umbilicus and permitted the small intestine, which was moderately distended, to push out through the abdominal wound. It was caught in hot aseptic towels, kept warm by irrigation. Only after the entire small intestine had been eventrated did the intussusception come into view. It proved to be of the ileo-cæcal variety. Disinvagination of the intussusception caused considerable difficulty, and, considering the length of time that invagination had existed, I had some doubts of being able to accomplish it at all. No adhesions had formed. With traction on the intussusceptum, supplemented by pressure on the intussuscipiens, continued for several minutes, the constriction at the neck yielded, and immediately the invaginated gut unfolded itself, the cæcum and vermiform process appearing last. The gut implicated was about six inches long. It was of healthy appearance everywhere, with the exception of a deep black furrow on one side of the intussusceptum, where the neck had exercised pressure. Nor did this part of the gut regain its normal color after it had been liberated, but the gloss peculiar to the peritoneum was still present.

I therefore concluded to replace it in the abdominal cavity, and I was more ready to run this risk in so young a child, in whom the prognosis of some other prolonged intestinal operation would certainly have been a very unfavorable one. Although the intestines were only moderately distended, it was with much difficulty that their reposition was effected. The abdominal incision was rapidly closed with a single row of sutures, taking in all the layers. The little patient rallied well from the operation and his

recovery was uninterrupted. During the first week, and even longer, the bowels were at times very frequently moved, on which account the child was kept under the influence of opium until the sutures were cut away on the tenth day. The operation was performed two months ago, and the patient is now in perfect health.

Another case, also of a child of six months, of successful laparotomy for intestinal obstruction was reported by the late Dr. Sands,[1] twelve years ago. The case was in many particulars identical with the one under consideration. It was also an ileo-cæcal invagination, in which, however, laparotomy was resorted to sixteen hours after the symptoms had first set in. The case differed in this much from my own, that the intussusceptum could be felt per rectum and that disinvagination resulted from the use of enemata and kneading of the abdomen until all but about one and one-half inch of the invagination had been reduced, leaving, indeed, at the time of operation, precisely the same pathological condition as in my own case.

To judge from the difficulty I experienced in unfolding the ileo-cæcum, I am convinced that no amount of pressure from the rectum, by enema or insufflation, could have safely overcome the intussusception. It is true Senn[2] tells us of an experimental ileo-colic invagination which was reduced on the third day by rectal insufflation of hydrogen gas, laparotomy having been previously performed. In this experiment, however, the objection that removal of all intra-abdominal pressure by incision may have assisted the intentions of the operator cannot be entirely disregarded, even if in other cases an anæsthetic be given to the extent of complete relaxation of the abdominal walls. But are the conditions of such an experiment perfectly identical with the pathological changes in a case of pronounced intussusception? In the experiment disinvagination was prevented by sutures at the neck of the intussuscipiens, which were removed on the third day before insufflation was practised. Plastic exudation covered the neck at the time, and was, I am led to believe, the only obstacle to disinvagination. In many cases of pathological intussusception, however, strangulation has occurred at the seat of disease, to what extent I have not been able to form an opinion. Such strangulation we know is due to swelling of the intussusceptum or to malpositions of the invaginated gut (twisting and curving). Where it does exist, I feel satisfied not much is accomplished by enemata or insufflation, but everything by careful and early manipulation of the inturned gut after laparotomy. The intussusception is truly in the position of a strangulated hernia, as Treves[3] remarks. In justice to Senn it must, however, be said that he is a warm advocate of laparotomy, when a faithful attempt at reduction by insufflation has failed.

I think I feel justified in drawing conclusions as to the advisability of a small or a large abdominal incision from my case. That I did not succeed in finding the intussusception does not militate against a small incision. In intestinal obstruction I believe that the general rule ought to be to make an incision only large enough to permit the introduction of the entire hand into the abdominal cavity, whether this be followed by an intra-abdominal search for the obstruction, or the drawing forth of a loop of intestine only at a time. But it must be remembered that, in a child of six months, the introduction of the entire hand is the equivalent of an incision large enough to permit easy evisceration, or, perhaps more correctly, to defy its prevention during the necessary manipulations. I think that a search with two fingers is entirely insufficient, when we should run no risk of prolonging the operation unnecessarily.

I have mentioned a small area of exquisitely tympanitic sound in the right half of the hypogastric region, which was distinctly defined from the metallic percussion-sound of the rest of the abdomen. The explanation of this phenomenon would seem to be that here there were two different parts of the intestinal tract under different degrees of tension. I fear that in very few cases of intestinal obstruction will this symptom be available, and when it does exist, in connection with other symptoms, it ought only to be considered as indicative of an obstruction in general, but not as pointing to the seat of the lesion. In most cases of obscure intestinal obstruction we generally find meteorism present to a greater or less extent. Where this is in any way pronounced, the distended viscera will gravitate upward, giving the entire abdomen a metallic percussion-sound. This is not merely verified by post-mortem experience, but also by cases of surgical interference. In acute intussusception, where there is little of any tympanites, it may happen, as in my case, that a loop of the gut lying below the constriction may still rest against the anterior abdominal wall. In such, as it appears to me, rare cases, the diagnostic value of the symptom is evident.

That the age of the patient can no longer be considered as a counter-indication to laparotomy is, I presume, generally accepted, and is proved by such cases as Dr. Sands' and my own. And when we bear in mind the miserable prognosis of spontaneous elimination of the intussusceptum in children, and the almost absolutely fatal prognosis of resection of the invaginated gut or of an artificial anus,[1] the tendency to early operative interference, as lately manifested, is readily understood. The points brought out by this case seem to be:

In cases of acute intestinal obstruction in very young children (mostly intussusception), where reduction by enemata or insufflation has failed, laparotomy ought to be immediately resorted to.

It is to be remembered, in this connection, that at the end of the third day the intussusception may still be reducible after laparotomy, and that prolonged attempts ought always to be made before reduction is considered impossible.

In very young children, taking into consideration the smallness of the field of operation, the absence of meteorism, facilitating the replacement of the intestines, the probability of being able to find the obstruction in less time, and the fact that two cases have been successful in children only six months old, it seems the better plan to make a large incision accompanied by evisceration.

After the obstruction has been found the intestines should be immediately returned to the abdominal cavity before further manipulations are undertaken. This will be the surest way of preventing shock or intestinal paralysis.

[1] Sands, H. B.: New York Medical Journal, June, 1877.
[2] Senn: Transactions of the Congress of American Physicians and Surgeons, 1889, p. 123.
[3] Treves: Intestinal Obstruction, p. 186.

[1] Senn: Transactions of the Congress of American Physicians and Surgeons, p. 126.

SUPPURATIVE FEVER: IS THERE SUCH A DISTINCT AFFECTION, AND ARE THE "TRAUMATIC INFECTIOUS DISEASES" MANIFESTATIONS OF IT?

By HENRY S. STARK, A.B., M.D.,

NEW YORK.

In order to establish the identity of a particular disease it is necessary, first, to show that the disease under consideration is produced by a special cause manifesting itself by distinct pathological conditions; and, secondly, it must be shown that the disease possesses distinctive features pertaining to its symptomatology and clinical picture not common to other affections. Whenever the exigency arises, and the above conditions have been fulfilled, we can rejoice that our nosology has been enriched by a new disease.

Although the disease with the above title has never been credited with any particular place in the classification of fevers in any work on general medicine, and has only been considered in outline in works on surgery, never-

theless there exists sufficient clinical evidence, based on recent bacteriological discoveries, to warrant the belief that such a disease is of frequent occurrence, and that it invariably manifests itself by pathological changes in the blood and the tissues that occasion a constant train of well-defined symptoms which render the diagnosis unmistakable.

The only explanation for this discrepancy that occurs to my mind is the fact that the specific character of the fever has only become definitely established within the last decade, and mainly through the efforts of Koch, Rosenbach, Ogston, *et altera*.

Throughout this paper the term "suppurative fever" will be employed to denote an acute, infectious, constitutional disease, characterized by a febrile movement and the production of pus containing special pathogenic bacteria and micrococci, and caused by infection from a wound, whether surgical or traumatic, or from a solution of continuity upon an exposed surface, as the skin, or upon a mucous or serous membrane. The febrile reaction may be continuous, intermittent, or paroxysmal; the location of the inflammatory products may be confined to one spot, or may embrace different and distant parts of the body; while the morbid processes themselves may be, on the one hand, so slight in character that the local phenomena of the affection may escape detection, or, on the other hand, these processes may be so destructive as to cause complete disorganization of tissues.

It will thus appear from what has preceded that this paper is intended as an argument in favor of the theory that the diseases generally classified as the "traumatic infections," viz., septicæmia, pyæmia, septo-pyæmia of Hueter, progressive suppuration, erysipelas, and puerperal fever, are all types, of varying intensity, virulence, and locality, of one and the same disease, that might properly be styled "suppurative fever," since this term furnishes a clearer conception of the pathology and the symptomatology of these diseases than the term "traumatic infections," which was coined some years ago when the mode of onset of these diseases was better understood than their etiology and pathology.

As regards the nature of septicæmia and pyæmia, and the many vague points of distinction which have been drawn between them, the consensus of opinion in view of our advanced knowledge of bacteric medicine is already in favor of the theory that these diseases cannot be differentiated clinically, pathologically nor experimentally, since both stand in a causative relation to pathogenic bacteria that are similar in size, shape, behavior, arrangement, and color.[1]

The microbic origin of septicæmia and pyæmia is now generally accepted by the profession, the main etiological difference between them being that septicæmia owes its origin to rod bacteria, and pyæmia to globular bacteria; and secondly, that the *materies morbi* of septicæmia is absorbed by the lymphatics, while in pyæmia the poison enters the general circulation through the veins.[2]

There is, however, one species of systemic intoxication that cannot be directly attributed to bacterial infection and is not necessarily attended by the process of suppuration, namely, that variety that is due to the presence in the blood of certain alkaloidal chemicals, derived from the decomposition of albuminous and nitrogenous matter and termed by Selmi and Gautier respectively ptomaines and leucomaines. To this category belong those intestinal septicæmias so frequent among children during the summer months, also the symptomatic complex of Bouchard,[3] named by him stercoræmia. The former classical ground of separation between septicæmia and pyæmia, namely, the occurrence of metastatic deposits in the latter and their absence in the former, no longer obtains, especially since microscopic metastatic deposits, and even venous thrombi, have been demonstrated in septicæmia.

[1] Koch: Untersuchungen über die Aetiologie der Wundinfectionskrankheiten der Thier. Leipzig, 1878.
[2] Wagner's Manual of Pathology, p. 593.
[3] Dujardin-Beaumetz: On New Medications.

Birch-Hirschfeld[1] thus discriminates between the two. By the term septicæmia he understands an alteration in the blood caused by absorption of the products of putrefaction, and defines pyæmia as a general infection which proceeds from the surface of wounds or from a focus of suppuration probably evoked by specific organisms. This distinction is undoubtedly fallacious, when it is remembered that the process of putrefaction is itself due to the fermentative action of micro-organisms, the bacillus saprogenes (Rosenbach), which is intimately connected with the bacterium termo (Dujardin), and consequently his definition involves a repetition of the same meaning in different words.

Neither Hueter, Burdon Sanderson, nor Billroth, in defining these terms, make any reference to the bacterial origin of these processes; on the contrary, the last mentioned states that the pus of pyæmic patients does not always contain cocci, nor has "he seen bacteria in the blood of pyæmic patients."[2] Thus Billroth's views are entirely at variance with the accepted facts derived from Ogston's experiments, that pyæmia does not depend upon the entrance of pus pure and simple into the general circulation, but upon pus charged with specific cocci or bacteria.

As an example of the wonderful progress of the medical sciences within the last ten years, contrast the radical views of writers of our own day; Ogston, for instance, who believes that these two processes are not diseases as such, but are simply secondary phenomena of microbial poisoning, while Delafield, in his article on "Pyæmia" in "Ashhurst's System of Surgery," uses this term as a general one to designate the entire group of traumatic infectious diseases.

The views maintained by observers prior to 1884, at which time Rosenbach published his remarkable discoveries of the pus-generating cocci, must be considered ancient and untenable. For in his monograph[3] Rosenbach furnishes experimental evidence so strong as to leave it scarcely a matter for doubt that the surgical infectious diseases are allied processes, and inseparably connected with his pus organisms, or the staphylococci or bacilli of Passet.[4] These experiments furnished the profession at large with an illustrious example of history repeating itself; for just as prior to 1884 septicæmia and pyæmia were considered as distinct affections, so before Koch's discovery in 1882 of the bacillus of tuberculosis, pulmonary phthisis and tuberculosis were regarded by Virchow, Niemeyer, etc., as distinct diseases.

Apart from the similarity of pyæmia and septicæmia as regards their bacterial origin, there is extant a mass of clinical facts that completely harmonizes with the deductions of experimenters. Thus it is known that necrosed uterine stumps, or ovarian pedicles that have been strangulated by ligature, may be dropped into the peritoneal cavity with perfect immunity from sepsis, providing no pathogenic microbic infection has taken place, extraperitoneally; likewise it is known that pus may escape into the peritoneal cavity from the rupture of a pyosalpinx without proving fatal, providing the tube be promptly extirpated and the wound properly treated.

If, now, we argue analogously with regard to the other traumatic infectious diseases, we can establish, *prima facie*, a close connection between puerperal fever and erysipelas, a connection which, to say the least, likewise arouses the suspicion that these infectious diseases are also linked together by a common microbial element. I am not now advocating the clinical relationship between puerperal fever and erysipelas, for that was already recognized in the eighteenth century, and since this date facts derived from reports of epidemics of these diseases have been

[1] Birch-Hirschfeld: Untersuchungen über Pyæmie, Archiv für Heilkunde, 1873, Band XV., p. 193.
[2] Billroth: Manual of Surgical Pathology, 9th ed., p. 414.
[3] Rosenbach: Die Micro-organismen der Wundinfectionskrankheiten des Menschen. Wiesbaden, 1884.
[4] Passet: Untersuchung über die Aetiologie der eiterigen Phlegmone des Menschen. Berlin, 1885

steadily accumulating which illustrate the reciprocal influence that each possesses to generate the other. The whole tendency of very recent investigation is daily rendering it more and more certain that puerperal fever is not an "essential" fever in the commonly accepted sense of this word, but that it is a pyæmia, or a septicæmia manifesting itself by constitutional disturbances, and contracted during the puerperium from microbial infection through a solution of continuity in the parturient canal. The first to clearly demonstrate the auto- and heteroinfectiousness of the disease was Semmelweis, in 1847. In 1865 Mahrhofer [1] called attention to certain vibrios found in the uterine cavity of patients suffering from puerperal fever. Since that time Pasteur and Doléris [2] claimed to have found the specific pathogenic microorganism. The latter submitted to the culture-process of Pasteur fluid obtained from vesicles which developed in the course of erysipelas, with the result that micrococci in chains, also bacilli, were found in the liquids employed identical with those he had discovered in puerperal fever. Pasteur's organism of puerperal fever, when injected beneath the skin of animals, gives rise either to pyæmia or septicæmia, depending upon the method of cultivation; in this manner he has demonstrated the identity of the two forms of puerperal infection.

In 1883 Fehleisen [3] announced his discovery of the streptococcus erysipelatis. It was afterward found, by himself and others, that the microscopic appearance of the individual coccus, as well as cultivations of them, very strongly resemble Rosenbach's streptococcus pyogenes; further, it was also found that both of the last-named cocci possessed the peculiarity of rapidly extending along the course of lymph-vessels. Besides these points of resemblance between these different cocci, it was further demonstrated that the erysipelas cocci bore a close resemblance to the streptococcus found in the tissues of the victims of puerperal disease. Thus the cocci of these diseases are so identical that single ones can scarcely be differentiated microscopically nor morphologically. The most conclusive evidence of the intimate connection between puerperal fever and erysipelas, from a bacteriological stand-point, was furnished by the experiments of M. Vidal within the last four years. A precise estimate of the conclusiveness of these experiments is furnished by the results obtained. M. Vidal, in a long chain of carefully conducted experiments on animals, established the fact that the cocci of puerperal fever give rise to erysipelas, and then produce the same clinical picture as the streptococcus of erysipelas.

The fact that the microbes usually associated with the traumatic infectious diseases differ in species and genera—that is, bacteria are found in one disease, micrococci in another, and bacilli in still another—does not furnish an argument against the identity of these diseases; for we must not attribute too much importance to such a classification of bacteria as Cohn's, the one so generally adopted by bacteriologists, since it is at best an arbitrary one adopted for convenience, and is based upon the form and size of these organisms rather than upon their functions and properties; in point of fact, it has lately been demonstrated that the same organism may cause diseases which differ very materially from each other as regards their symptomatology, according to the method of inoculation and the media in which they are cultivated. The fact that the life-history of these lowest forms of vegetable organisms, especially their mode of reproduction, is still shrouded in an atmosphere of obscurity has led very competent observers to believe that they cannot, therefore, be divided by any hard and fast lines into species and genera. On the contrary, recent researches have demonstrated that several of these organisms successively assume the different shapes embraced in Cohn's classification.[1]

To sum up briefly, as far as we have gone, the following points of analogy between the traumatic infectious diseases may be assumed:

1. They are nearly always attended by a febrile movement and other manifestations of an inflammatory disease.
2. All are attended by similar constitutional disturbances.
3. All are dependent upon infection from microbes that are identical in appearance and behavior.
4. They are all generated in putrefying media.
5. All are accompanied to a greater or less extent by the process of suppuration.

These points of analogy, I believe, are sufficiently conclusive to warrant the assumption that there is a traumatic disease, *per se*, whose distinguishing characteristics are fever, infection, and suppuration; whether we call this disease "suppurative," or "traumatic," or "putrid," or "pyogenetic" fever, or what not, is practically immaterial, the point is, to recognize it as a distinct pathological entity.

In this connection acute suppuration must be separated from chronic suppuration. The latter variety does not enter into consideration in our discussion, since the suppuration of chronic abscesses is admitted to be etiologically identical with tuberculosis from the fact that tubercle bacilli have frequently been demonstrated in the pus of such abscesses and because patients suffering from chronic suppurative processes have finally, in a generality of cases, succumbed to general or to pulmonary tuberculosis. Further, Koch, Rosenbach, and others, injected pus from chronic bone abscesses into the knees, pleura, and peritoneum of animals; the greater number of these became affected with typical local tuberculosis. There are, however, those who believe that even the pus of chronic abscesses at some time or other did contain microbes, but that they have ultimately disappeared through the molecular disintegration of the pus cells and the chemical decomposition of the other pus-elements.

The view that the relationship of acute suppuration to microbial infection is one of cause and effect never took definite shape until Ogston,[1] Rosenbach, and, very recently, Steinhaus [2] made public their observations based on personal experiments. All of the experiments of these men were conducted with the aid of the latest devices known to microscopists and in strict conformity with the Listerian principle, consequently they are of inestimable value as experimental evidence.

Ogston was the first to demonstrate the constant presence of micrococci in acute abscesses. He examined the pus of 88 abscesses of all descriptions with the following result—70 acute and 4 chronic abscesses contained characteristic micrococci. The remaining 14 cases were all chronic bone or glandular abscesses in which the pus had undergone changes and did not contain organisms. Ogston drew the following conclusions from his observations: 1, Micrococci are the most frequent cause of acute suppuration; 2, in all clinical cases of acute suppuration micro-organisms can be demonstrated; 3, micrococci can cause septicæmia.

Rosenbach made microscopical examinations of, and cultivations from, the pus of 26 unopened acute abscesses and discovered the pus organisms in 24 of his cases. The two non-microbic cases were suppurating ecchinococcus cysts, and of these Rosenbach delivers himself as follows: "I hesitate to ascribe the inflammation to the parasites as such, for on the one hand ecchinococci can exist in the body a long time without causing suppuration, and on the other hand because microbes were not found it does not follow that they were not present and did not die out later." Rosenbach's conclusion is that acute suppuration is the consequence of infection. Steinhaus' experiments extended over a series of 49 cases, 4 of chronic abscesses

[1] Mahrhofer: Monatsschrift für Geburtshülfe, vol. xxxv., p. 112.
[2] Doléris: La fièvre puerpérale et les organismes inferieurs, Thèse de Paris, 1880.
[3] Fehleisen: Zur Aetiologie des Erysipels. Berlin, 1883.
[4] Crookshank: Manual of Bacteriology.

[1] Ogston: (a) Ueber Abscesse, Archiv für klinische Chirurgie, 1880. Band 25. (b) Micro-organisms in Surgical Diseases, British Medical Journal, 1881, p. 369.
[2] Steinhaus: Zur Aetiologie der Eiterung, February, 1889.

and 45 of acute abscesses. Of the former, microbes were found in only one case and this was the tubercle bacilli, while in the 45 cases of acute abscesses pus organisms were demonstrated in all. Besides the experiments just cited a number of others made by careful observers is on record. These have been collected and tabulated by Steinhaus in his monograph on the "Etiology of Suppuration." The subjoined schedule is reproduced from this work:

Pus-organism.	Ogston.	Rosenbach.	Passet.	Garré.	Hoffa.	Tilanus.	Kranzfeld.	Zuckerman.	Jakowski.	Steinhaus.	Total.	Per cent.
Staphylococci	31	16	20	68	87	15	26	28	10	29	330	66.5
Streptococci	17	15	8	3	12	4	20	6	11	5	101	20.4
Micrococcus pyogenes tenuis	..	3	..	..	..	1	..	..	..	1	5	1.0
Bacillus pyogenes fœtidus	..	..	1	..	..	1	..	..	2	..	4	0.8
Micrococci similar to pneumococci	..	.	2	..	..	..	..	..	..	.	2	0.4
Staphylococci et streptococci	16	5	2	1	1	..	7	..	7	8	47	9.5
Staphylococci et micrococci pyogenes tenuis	..	.	..	..	..	..	..	..	1	1	2	0.2
Streptococci et micrococci pyogenes tenuis	..	.	..	..	.	..	..	..	1	1	2	0.4
Staphylococci et bacillus pyogenes fœtidus	..	..	..	..	..	..	..	..	1	..	1	0.2
Streptococci et bacillus pyogenes fœtidus	..	..	..	..	..	..	..	..	3	..	3	0.6
Total sum	64	39	33	72	100	21	53	34	35	45	496	100.0

Summary of above.—Staphylococci alone, 66.5 per cent.; streptococci alone, 20.4 per cent.; mixed infection, 9.5 per cent.; remaining infection, 3.6 per cent.

The question whether suppuration can arise independent of microbial infection is still *sub judice*. Efforts, however, to prove that non-microbic suppuration is a possibility have recently met with fruitful results. In this way certain sterilized irritative chemical agents, as oil of turpentine, oil of cantharides, tartar emetic, concentrated solutions of corrosive sublimate, etc., have been shown to possess pyogenic properties when injected under the skin of animals. But granted that chemical or mechanical irritation can provoke suppuration, it does not contradict my claim, for in the beginning of this paper I stated explicitly that I am confining my proposition to the traumatic infectious diseases. The suppuration that accompanies these diseases all admit to be microbic.

If, now, we extend our field of inquiry by examining into the etiology of fever and the relation of fever to the process of suppuration, we find substantial evidence that a coincidence between microbial infection, fever, and suppuration is consistent with our present state of knowledge; in fact, the medical literature that bears upon these subjects has been of late strongly corroborative of the view[1] that the fever of the infectious diseases is either directly due to the action of micro-organisms or indirectly to their chemical products, the ptomaines. Our knowledge of the etiology of special fevers confirms the view that, under certain favorable conditions, bacteria become endowed, when circulating in the human economy, with marked pyogenic properties. The *modus operandi* of this special endowment is still a matter of speculation. We do not as yet know whether these organisms exercise this evil prerogative by virtue of unknown physical or chemical reactions, or by some unknown power. The fact remains that they may become a fruitful source of inflammatory processes. Kocher[2] goes one step further and asserts that acute suppuration is nothing but an "intense inflammation."

The accumulation of such evidence seems to supply the one link lacking in the chain of proof to establish the essentiality of "suppurative fever." The natural sequence of events in this affection would be about as follows: 1, Trauma, artificial or accidental; 2, infection; 3, suppuration; 4, fever. In the ground already traversed by this article, I have maintained that the traumatic infectious diseases are not maladies *sui generis*, but secondary phenomena of microbic poisoning. I have corroborated my views by pathological inferences that are accepted as axiomatic truths by those whose knowledge entitles them to consideration because they have kept pace with the advances of our own times. I have further endeavored to establish the fact that the terms "septicæmia," "pyæmia," "septo-pyæmia," no longer retain their original signification; on the contrary, they are obsolete. The exposition of these facts forcibly reminds us that the entire subject of the pathology and etiology of the infectious diseases ought to be rewritten from the stand-point of the germ-theory of infection.

All of the arguments so far adduced in support of my theory have been derived from the study of micro-organisms, but this fact should not lead to the belief that suppurative fever is entitled to recognition as a distinct affection on such evidence alone. The probability is further strengthened by the fact that clinical experience corroborates the results of bacteriological researches. One of the principal events which make up the clinical history of "suppurative fever," and one that may be viewed as pathognomonic of the disease, is that train of symptoms that is spoken of as hectic fever. This type of continuous fever, although generally associated with pulmonary tuberculosis, is just as frequently present in other lesions of a suppurative tendency. The fact is well established that a hectic movement invariably arouses the suspicion that suppuration is going on, while the intensity of the fever serves as a guide to the activity of the suppuration. Given a case of pelvic inflammation, if the accompanying fever is of a hectic character we can surmise the presence of pus long before fluctuations and tenderness can be elicited. So in pulmonary tuberculosis the hectic cycle warns us that there is a suppurative breaking down of lung parenchyma. In many of these cases the thermometer, by detecting a hectic movement, will enable one to form a correct judgment of the condition of the lung perhaps long before the physical signs and symptoms reveal the presence of consolidation. So in a surgical case, as an amputation of a limb or an exsection of a joint, if some days after the operation the thermometer indicates a hectic movement, the operator concludes that suppuration has taken place, and that his elaborate dressing must be removed. The recital of these cases, and the innumerable parallel ones that these serve to recall, strongly suggests the possibility that hectic fever is a species of suppurative fever, or if not, it is an almost invariable concomitant of this disease.

Hectic fever is nature's method of announcing pus, for just as in physics "nature abhors a vacuum," so in medicine it may be said that nature abhors pus in the living body.

270 East Seventh Street.

[1] Welch: The Pathology of Fevers. Cartwright Lectures, 1888.
[2] Kocher: Zur Aetiologie der acuten Entzündungen, Archiv. für klin. Chirurgie, Band xxiii.

Transplanting Tuberculosis.—The State Board of Health of California has been greatly exercised over the danger to which it believed the State is exposed through the immigration of a large number of persons suffering from tuberculosis. It even suggested, in a recent bulletin, the advisability of establishing a strict quarantine against consumptives until measures of isolation and disinfection could be undertaken. The daily press of San Francisco has not been slow to take up the question, and the result has been a scare and a sensation of such magnitude that even the proposed prize-fight has been for the moment forgotten.

REPORT OF A CASE OF TYPHOID FEVER WITH AN UNUSUAL COMPLICATION.

By WILLIAM W. GRAVES, M.D.,

ST. LOUIS, MO.

I HAVE recently met with a case of typhoid fever in which, as far as I can ascertain, a rare complication existed. I therefore desire to place the case on record. It terminated fatally.

CASE.—Annie E——, aged ten, who had been previously strong and healthy, was first seen by me on the evening of October 20, 1889, while visiting her mother, a convalescent from a six weeks' attack of typhoid fever. On examination I found marked tenderness and gurgling in the right iliac region, enlargement and tenderness in the region of the spleen, and some tympanites. Temperature, 102.5° F.; pulse, 100. I learned from the mother that for the past three or four days the child had little or no appetite, had been drowsy, and would feel tired upon the slightest exertion. She had headache, backache, was constipated, and had epistaxis several times. With this history and array of symptoms, together with the fact that this little girl had constantly attended to the wants of the mother, emptied the discharges, etc., I felt thus early constrained to make a diagnosis of typhoid fever.

I visited the patient twice daily, and found the characteristic morning fall and evening rise of temperature. On October 23d, three days after the first observation and about the sixth day of the disease, the temperature was 100.5° F.; pulse, 112. On this occasion, while examining the patient, I noticed several dusky red, irregularly shaped patches, varying in size from a split-pea to the thumb-nail, situated in the right iliac region. They were slightly elevated, disappeared on pressure, and would quickly return when the pressure was removed. The adjacent skin was normal. There were also points of normal looking skin within the patches, where I also observed from two to eight vesicles, not larger than a pin's head.

On October 24th, evening, temperature and pulse were the same as on the previous day. The patches in the region of the pubes had become confluent, and others had appeared on the upper portion of the abdomen, on the vulva, and on the flexor surfaces of the thighs, not lower than the middle third.

October 25th, evening.—The abdomen is now completely covered by the eruption. No points of healthy skin are to be seen. It is diffuse and of a dusky red color. Many of the vesicles upon the abdomen have become pustular. The eruption has extended upward to the chest, several patches being also seen upon the flexor surfaces of the arms and wrists; and downward to the thighs and legs, being most marked upon the flexor surfaces.

October 28th, evening.—Temperature, 105° F.; pulse, 124. The temperature has been the same for the past three days; the morning temperature has been from 0.5° to 1° less than the evening. This is now the eleventh day of the attack, and the fifth day since the patches first appeared. It now appears to have reached its maximum intensity. The rash is now seen over the entire body with the exception of the face and scalp. On the neck it is very scant, on the flexor surfaces it is abundant, while on the extensor surfaces it is scanty. It is confluent only on the flexures of joints, and on the abdomen. There are some pustules in every portion of the body, but mostly on the abdomen. The skin in this region feels thick, dry, and leathery in a marked degree. In other parts it is similar, but not so well marked. During the development of this rash the patient at no time complained of burning or itching of the skin. There has been no delirium, and, notwithstanding the continued high temperature, the condition of the patient is excellent. She has taken nourishment regularly, and has slept well. Throughout the attack constipation has been the rule.

October 29th, evening.—Temperature, 104° F.; pulse, 120. Desquamation has commenced on the abdomen. From this day desquamation progressed rapidly, proceeding in the order of the development of the rash. In five days the exfoliation was complete, the epidermis peeling off from the abdomen, back, and extremities in laminæ varying in size from a ten cent piece to that of a silver quarter dollar, while that from the palmar and plantar surfaces was detached in perfect casts. As exfoliation progressed there was a corresponding decline in the temperature and pulse-rate, so that by the fourteenth day of the disease the former was only 100° and the latter was 96. The emaciation was not great, and the patient was able to sit up in the bed without assistance. The tongue became clean and moist, and the patient expressed a desire for solid food, which, however, was not permitted. By the evening of the sixteenth day of the attack, to my great surprise, the temperature was 102.5° F.; pulse, 110. The tongue again became coated. Tenderness in the right iliac region, which had subsided, was again marked.

On the second day of the relapse the temperature was 104° F.; the pulse 130; the patches again appeared on the abdomen.

Third evening of the relapse.—Temperature, 105° F.; pulse, 140. The mother states that the patient had a rigor which lasted thirty minutes, and since that time has been very restless. Patient complains of pain in the chest, not localized, but general. She has a short, dry cough, which is somewhat painful. There is no dulness on percussion, but at several points at the base of each lung percussion elicits some tenderness. Over the upper portions of both lungs there were high, shrill, whistling rhonchi to be heard, and over the lower portions abundant small moist râles. The respirations are greatly increased, being 55 to 65 per minute, whereas at no time before had they ever been more than 35 per minute. The diagnosis of capillary bronchitis, as an additional complication, is made. The rash is spreading, as it did in the primary attack, to the chest and thighs.

Fourth evening of relapse.—The patient has been delirious most of the day, the delirium being of a muttering form. There is sordes on the teeth and lips. The tongue is dry and parched. The respirations are labored and costal in type, being 70 to 75 per minute. Expiration is prolonged and sighing. Temperature, 105.5° F.; pulse, 150. She has had ten stools during the day. The rash again seems to be fully developed. As before, it is confined principally to the flexor surfaces. It is not as intense as before, the color is more faint, and the skin is not so thick and dry. There are also fewer vesicles and pustules.

Fifth evening of the relapse.—The temperature is the same as on yesterday. The pulse has increased in frequency, and is now from 160 to 170 per minute. The respirations are from 70 to 80 per minute. Delirium is marked. The diarrhœa has ceased. The patient when roused up will take nourishment. Desquamation again begins on the abdomen. Death seems imminent. Notwithstanding the patient's condition her life was prolonged for four days, death occurring on the ninth day of the relapse.

During the four days since the last recorded observation, desquamation was rapidly accomplished. The heart's action grew more feeble from day to day, respirations became more embarrassed and frequent, delirium more marked, and the temperature remained at or above 105° F. up to a few hours before death.

Notwithstanding the fact that I had made a diagnosis of typhoid fever at the commencement of the attack, it was greatly shaken after the appearance of the eruption. Flint, in his late work, speaks of a "scarlatiniform" rash not infrequently occurring at the commencement of typhoid fever, and preceding the ordinary "rose spots." J. C. Wilson, in his article on enteric fever in the "Encyclopædia of the Diseases of Children," says: "An erythema-

tous rash is not infrequently observed in children, and even in adults with white delicate skins, during the first week, and it is usually most marked on the abdomen and flexor surfaces. Its usual duration does not exceed three or four days." After making a research of all the literature at my command, I am able to find but a few cases like the one I have presented. Scarlatina is not infrequently associated with enteric fever, but this was easily excluded for the following reasons:

First, the patient had had scarlatina once, six years before, and had not recently been exposed to that disease.

Second, the temperature is high from the beginning in scarlatina and rapidly reaches its maximum intensity. In typhoid fever there is a gradual rise in the temperature.

Third, the rash makes its appearance on the face and neck usually within the first forty-eight hours in scarlatina. In my case this did not occur until the sixth day of the attack, and it first appeared on the abdomen.

Fourth, the rash in scarlatina becomes rapidly confluent and when at its maximum the entire body is covered, the skin being uniformly red, hot, and dry and sometimes tense, swollen, very sensitive and œdematous, especially about the face and eyes. In my case the rash became slowly confluent and at its maximum intensity only on the abdomen and on the flexures of joints. Besides it was most marked on the flexor surfaces. The skin was not sensitive nor œdematous upon any portion of the body.

Fifth, the color of the skin in scarlatina is usually of a bright scarlet, and vesicles and pustules are rarely present. In my case the color was dusky red, and at times vesicles and pustules were abundant.

Sixth, in scarlatina redness of the faucial and buccal mucous membrane, with more or less angina and enlarged lymphatic glands, is almost invariably present. In my case none of these symptoms were observed.

Seventh, in scarlatina during the course of the disease at some time albumin may usually be found in the urine. In my case no albumin was present during the entire attack.

Eighth and lastly, in my case the eruption was present during the relapse, which is a very rare occurrence in scarlatina after convalescence has been established.

Variola was excluded by the fact that the patient four years ago had a violent attack of this disease, and by the time, appearance, and recurrence of the rash. There is no doubt that the eruption was scarlatiniform erythema, so rarely observed in typhoid fever.

When the rash had reached its maximum intensity I asked my friend, Dr. A. H. Ohmann-Dumesnil, to see the case with me. He concurred in the diagnosis of typhoid fever, excluding scarlet fever as a complication, and called the eruption "scarlatiniform erythema," believing with me that the exanthem was due to the typhoid poison, and apparently taking the place of the "rose spots" commonly seen in typhoid fever. This conclusion was arrived at for the following reasons:

First, the time of the appearance of the rash corresponds exactly with the usual time that these spots appear, namely, the latter part of the first week.

Second, appearing first on the abdomen, as the "rose spots" usually do.

Third, during the relapse the rash again appeared, as the "rose spots" generally do.

Fourth, the duration corresponded closely with that of the "rose spots," and the decline in the eruption was coincident with that of the fever. Therefore, we observe that the time of the appearance, duration, and recurrence corresponded closely with the history of the "rose-spots."

From the foregoing may we not be justifiable in assuming that this case is an atavistic form of typhoid fever? May we not assume that the eruption as observed was the original eruption of typhoid fever, and that during the course of time it has become so modified that we have now only the "rose spots" instead of a general erythema? I have no proof to offer in support of this theory beyond the fact that we know that in biology we constantly have recurring types presenting themselves, and we further know that diseases change, some epidemics are at times mild and at other times malignant, and we can offer no satisfactory explanation for these changes. By accepting this as the solution of the above and similar cases we must conclude that typhoid fever was originally an exanthematous disease.

Post-mortem.—Autopsy was performed twelve hours after death in the presence of Drs. George A. Krebs and G. W. Gale. Rigor mortis well marked, emaciation great, abdomen flat. On opening the abdomen we found the following: Peritoneum normal; intestines contained but little gas and fæces, through the ileum could be distinctly felt the thickened "Peyer's patches." The mesenteric lymph-glands were greatly swollen but none were broken down. On opening the ileum we found the mucous membrane somewhat hyperæmic. "Peyer's patches" very prominent; follicles enlarged and ulcerated. In some of the patches the healing process had nearly been completed, since the mucous membrane had evidently been regenerated, though they still remained thickened, while in other patches ulcers, having the characteristic punched-out edges, were still present. The mucous membrane in other portions of the intestines seemed to be perfectly normal. The spleen, liver, and kidneys were all enlarged.

I regret very much that we were not permitted to examine the lungs. The father had with much reluctance granted the post-mortem, and being present in the room would not permit us to open the chest.

No detailed mention has been made of the treatment adopted in this case. I followed the now almost universally adopted cold-water treatment, and my own views agree fully with those so clearly and convincingly stated by Dr. S. Baruch in a paper in the MEDICAL RECORD of February 16, 1889. For this reason the discussion of the therapeutic measures at this place seems to me uncalled for.

COMMERCIAL BUILDING, ST. LOUIS, MO.

THE ACTING ASSISTANT SURGEON OF THE UNITED STATES ARMY IN THE WAR OF THE REBELLION.

BY JOHN T. NAGLE, M.D.,

NEW YORK.

THE agitation which has taken place, for a couple of years past, to fix the status of the acting assistant surgeon of the United States Army, now serving, and give him the rank, pay, etc., of second lieutenant of cavalry, should be persevered in, as I feel quite sure that, if Congress could be made to understand his true position and the arduous duties he performs, that it would concede the modest request he makes. The MEDICAL RECORD has from time to time informed its readers of the almost humiliating position the acting assistant surgeon is now placed in. Some of them held, I am informed, medical commissions of high rank during the late war, and ought to deserve well of their country and receive the sympathy of every lover of justice. I sincerely wish them success in their movement.

The position of the acting assistant surgeon of the United States Army of the present day is pretty well understood by the medical profession, particularly that portion of it that is interested in military affairs; and as very little has been said of the acting assistant surgeon of the army during the late war, I think the following brief account may be of interest.

The Medical Staff of the United States Army.—The "Medical History of the War of the Rebellion," Part III., Surgical Volume, page 899, informs us that, at the outbreak of the rebellion, the medical department of the

United States Army was composed of one surgeon-general, with the rank of colonel; thirty surgeons, with the rank of major; and eighty-four assistant surgeons, with the rank of first lieutenant for the first five years of service; and that these medical officers formed a portion of the general staff of the army, and were not permanently attached to any regiment or command, but were subject to duty wherever their services were needed; and that at the beginning of hostilities, in 1861, large forces of State troops, or militia, responded to the several proclamations of the President calling for aid in suppressing the rebellion, and that each regiment was provided with a surgeon and an assistant surgeon, commissioned by the States in which the troops had been enlisted. These officers were borne on the muster-rolls, and permanently attached to the regimental organizations, being seldom detached except for urgent reasons. The calling out of a force of five hundred thousand volunteers, on July 22, 1861, necessitated an increased medical force to care for the wounded and disabled soldiers, and an act to reorganize and increase the efficiency of the medical department of the army was approved April 16, 1862. The organization of the regular staff was increased so as to number 1 surgeon-general, 1 assistant surgeon-general, 1 medical inspector-general, 16 medical inspectors, and 170 surgeons and assistant surgeons; there were appointed 547 surgeons and assistant surgeons of volunteers; there were mustered into the service, between April, 1861, and the close of the war, 2,109 regimental surgeons, and 3, 882 regimental assistant surgeons. During the same period there were employed 85 acting staff surgeons, and 5,532 acting assistant surgeons.

The Regular Army commissioned medical officers, the surgeons and assistant surgeons of United States Volunteers, and the Acting Assistant Surgeons of the United States Army, were not attached to any regiment or command, but were subject to duty wherever their services were needed, while the regimental surgeons and assistant surgeons were rarely detached from their regiments.

The laws of the United States prescribed the age of an applicant for the position of assistant surgeon to be from twenty-one to twenty-eight years, and no person who was under twenty-one years or over twenty-eight years could receive an appointment as an assistant surgeon in the United States Army. The regimental medical officers and the acting assistant surgeons were not limited to this age, but were required to be physically sound on entering the service.

The Acting Assistant Surgeon, how Appointed.—The acting assistant surgeon United States Army, or contract surgeon, in order to be appointed as such, had to make application to be examined for the position in the manner described in the following circular, issued by Joseph K. Barnes, who was acting surgeon-general of the United States Army, viz.:

"Information for applicants for the position of contract surgeon, in the United States Army.

"1. All candidates must make application in their own handwriting (accompanied by sufficient evidence of good moral character, of physical ability, and of being graduates of some regular medical college), to the surgeon-general at Washington, assistant surgeon-general at Louisville, or a medical director of a department.

"2. Upon the receipt of such application, a permit will be given for examination before the nearest medical board then in session, or before a board convened temporarily for that purpose by a medical director.

"3. If reported favorably by the board, the candidate will receive a certificate to that effect, which will secure him the position of contract surgeon whenever his services may be needed.

"4. In accepting a contract, the physician binds himself to serve the United States for a stated period, unless sooner discharged, and to be subject, in all respects, to the same control as all other medical officers."

Requirements and Duties of the Contract Surgeon.—The successful candidate is required to subscribe to a printed form of oath, which is administered to him, and he is now officially designated as acting assistant surgeon, United States Army. The duties of the acting assistant surgeon were similar to those of assistant surgeons and surgeons of the medical staff of the army. He wore the uniform and insignia of rank of assistant surgeon, and was allowed the same amount of pension that was given to a first lieutenant of the military or marine corps. He was assigned to commands, in the field and elsewhere, which were without medical officers. Many were assigned to the charge of United States general hospitals, where the responsibility was very great, and the executive officers of a very large number of the United States general hospitals were acting assistant surgeons.

Nearly all the United States hospitals for the care of the soldiers who suffered from small-pox, and other contagious and infectious diseases, were in charge of acting assistant surgeons of the United States Army. The following account of one of them, which was furnished by Dr. J. V. Patterson, of No. 104 West Penn Street, Germantown, Pa., who was an acting assistant surgeon, United States Army, in charge of the United States Hospital, near Philadelphia, is interesting and amusing. Dr. Patterson states that he was assigned to duty as acting assistant surgeon, United States Army, on August 21, 1862, and after serving two months, he states that it was determined to open a hospital for small-pox and other contagious diseases. Several regular army surgeons refused to have anything to do with it, and the medical director of the department requested him to open and organize such a hospital, which he did on October 7, 1862, and he remained surgeon in charge until August, 1865, when he closed up the hospital. He not only acted as physician, but he was obliged to serve as clerk, paymaster, etc. On account of small-pox patients, everyone fought shy of the hospital. The paymaster refused to come to the hospital, and he, Dr. Patterson, was obliged to make out the pay-rolls, and take them to the paymaster in the city of Philadelphia, and the paymaster, after eying them suspiciously, would draw his check for the amount. Of the officers sent from Washington to make an official inspection of the hospitals, there never was but one man who had the courage to enter the wards, examine the bedding, and make a thorough inspection. At the close of his term of service he had the satisfaction of being complimented by the medical director with the remark, that he had given him the least trouble of any surgeon in the department, and that the hospital fund had been so well managed that, on two occasions, he had drawn from its surplus to help to pay the debts of other hospitals.

On page 902 of the "Medical and Surgical History of the War of the Rebellion," Part III., paragraph 5, the following appears:

"As soon as possible after every engagement, the wounded were transferred from the division or corps hospitals to the base or general hospitals, which at one time numbered 205; these were under the charge and command of the regular or volunteer staff, assisted by acting assistant surgeons, medical cadets, and officers of the second battalion of the veteran reserve corps." This statement is not altogether accurate, as there were several United States general hospitals under the charge and command of acting assistant surgeons of the United States Army. The hospital railway transportation service was generally placed under the charge of acting assistant surgeons. Acting Assistant Surgeon J. P. Barnum fitted up the ambulance or hospital train for the transportation of the sick and wounded between Louisville and Nashville, a distance of one hundred and eighty-five miles.

"Surgeon George E. Cooper, U. S. A., Medical Director of General George H. Thomas's Army of the Cumberland, reported that when he arrived in the Department he found a train, fitted up by Dr. Barnum, already in operation on the line, one train, at least, leaving the vicinity

of the field hospitals daily. The trains were prepared under Dr. Barnum's direction, and Dr. Barnum states that he conveyed twenty thousand four hundred and seventy-two sick and wounded soldiers from the battle fields, general hospitals, etc., with a loss of but one man, who, despite the advice of his surgeons, implored that he might be taken to die in the bosom of his family. Dr. F. L. Town, U. S. A., in a report to Assistant Surgeon-General R. C. Wood, remarks that Acting Assistant Surgeon J. P. Barnum had charge of the first hospital train built at Nashville, and that he studiously labored to improve and systematize its working, and devised many expedients looking to the comfort of the patients in days when the theory of hospital trains was not so well understood as now" (see pp. 962–3, "Medical and Surgical History of the War of the Rebellion," Part III., Surgical Volume). Dr. Barnum states that he was with General W. S. Rosecrans' advance column, and participated in the battle of Chickamauga, and organized the Main Street Hospital in Chattanooga on Sunday after the battle. This hospital he turned over to Brigade Surgeon J. P. Arter, and took charge of the ambulances, which conveyed two thousand men from Bridgeport to Nashville. Dr. Barnum was afterward placed in charge of the river transportation of sick and wounded soldiers, having direct control of the steamer Mercury, where he not only acted as surgeon-in-charge, but also as post commandant, commissary, quartermaster, paymaster, and had authority to sign the name of R. C. Wood, Assistant Surgeon-General, by order of the Secretary of War; a power granted, he believes, to no other official of any rank in the Department.

Acting Assistant Surgeon Solomon A. Andrews was in charge of the ambulance or hospital train between Washington, Baltimore, and Philadelphia.

The acting assistant surgeon of the United States Army was subject to do duty wherever his services were most needed, in accordance with the United States Army regulations, and he was liable to be changed from one post to another at the will of his superior officers.

There were many very eminent physicians and surgeons in this branch of the medical service of the army, as the following extract from the "Medical and Surgical History of the War," Surgical Volume, Part III., page 901, entitled the Medical Staff, and prepared under the direction of General Joseph K. Barnes, Surgeon-General, United States Army, will show:

"Besides the medical officers of the regular and volunteer staff, and the medical officers of regiments, there was a class designated as acting assistant surgeons, who were private physicians, uncommissioned, serving under contract to do duty in the field or in general hospitals. This class was very large, and embraced in its number some of the most eminent surgeons and physicians in the country."

The acting assistant surgeon ought to be proud of the compliment paid him, as it was the only branch of the medical staff of the army that was singled out and received special mention on account of the eminence of some of the physicians and surgeons that were attached to his corps. The tribute, however, was well deserved. Professors in medical colleges, editors of standard medical works, and other physicians and surgeons of eminence, abandoned the comforts of home and sacrificed lucrative practices to share the dangers and discomforts incidental to camp life, because their country needed their services, and their patriotism and sense of duty to their country, and the sick and wounded soldiers who suffered in its defence needed the most eminent medical and surgical care that the country could give.

The orders that were given to the acting assistant surgeon were similar to those that were issued to other medical officers. I submit a few of those that were received by an acting assistant surgeon as examples of the form, to show that he was as strictly under military laws and discipline as the assistant surgeon of the regular army who he personated:

ORDERS.

MEDICAL DIRECTOR'S OFFICE,
WASHINGTON, D. C., June 23, 1864.

Acting Assistant Surgeon John T. Nagle, U. S. A., will report for duty without delay to Surgeon John Higgins, Surgeon-in-chief of the Cavalry Depot, Camp Stoneman, D. C.

J. V. D. MIDDLETON,
Assistant Surgeon, U. S. A.,
For Medical Director.

Through Assistant Surgeon C. A. McCall, U. S. A.,
Mt. Pleasant Hospital.

HEADQUARTERS CAVALRY DIVISION,
DEPARTMENT OF WASHINGTON,
CAMP STONEMAN, D. C., July 4, 1864.

DOCTOR: You will report for duty to the commanding officer of the second battalion, consisting of the third division and reserve brigade, which is to march to-morrow morning.

By order of WILLIAM GAMBLE,
Colonel Commanding.
A. HARD,
Surgeon-in-chief Cavalry Division,
Department of Washington.

JOHN T. NAGLE,
Acting Assistant Surgeon, U. S. A.

PASSES.

HEADQUARTERS MILITARY DISTRICT OF WASHINGTON,
WASHINGTON, D. C., July 2, 1864.

Pass John T. Nagle, acting assistant surgeon, U. S. A., to Camp Stoneman, Md., for the purpose of joining camp. This pass will expire July 2, 1864.

By order of M. N. WISEWELL,
Colonel and Military Governor.
WILLIAM H. ROGERS,
Captain and Aide de-camp.

No.....

OFFICE OF PROVOST MARSHAL,
SANDY HOOK, July 28, 1864.

Guards and pickets pass John T. Nagle, surgeon, to Harper's Ferry and return. Good for this day.

WILLIAM H. H. GONTZ,
Captain and Provost Marshal.

Pass no goods.

Several of the acting assistant surgeons served nearly during the entire war, and the "Medical and Surgical History of the War" shows that they performed their duty with zeal and fidelity, and that they never shirked any duty or responsibility imposed on them.

The following record of military history will show the form furnished to an applicant, who served in the late war, for a copy of his history, viz.:

Military history of Charles H. Bowen, M.D., as shown by the records of the Surgeon-General's office.

October 7, 1861, was appointed medical cadet, U. S. Army, and assigned to duty at the Infirmary, Washington, D. C. December 31, 1861, was transferred to Circle Hospital. January 4, 1862, ordered to report to Surgeon Cooper, at Port Royal, S. C. January 9, 1862, order rescinded, and was reassigned to duty at Circle Hospital. September 15, 1862, reports from Armory Square that his time is about to expire. October 8, 1862, entered into contract with the Surgeon General U. S. Army for duty as acting assistant surgeon U. S. Army, and was assigned to duty at Armory Square Hospital, Washington, D. C. November 24, 1862, was on leave of absence for six days. December 13, 1862, ordered to report to medical director's office, Washington, D. C., for temporary duty with the army of the Potomac. Returned December, 1862, to Armory Square Hospital for duty. April 19, 1863, contract annulled, and a new one made at an increased compensation. Remained on duty at Armory Square Hospital to November 11, 1863, when ordered to report to Surgeon J. C. McKee, U. S. Army, at U. S. General Hospital, Pittsburg, Pa.; was on duty at General Hos-

pital, Pa., to February 20, 1864, when his contract was annulled at his own request. Under contract April 8, 1864, was on duty at Chicago, Ill., to April 25, 1864, when contract terminated. Under contract dated May 10, 1864, was on duty at Armory Square Hospital, Washington, D. C., Fort Simmons and Mansfield, Lincoln and Armory Square General Hospitals, and U. S. engineer brigade, D. C., and at Slough General Hospital, Alexandria, Va., to November 11, 1865, when his contract was annulled at his request.

Official: C. H. CRANE,
Assistant Surgeon-General, U. S. Army.

SURGEON-GENERAL'S OFFICE,
December 4, 1889.

The "Medical History" further says: "Of the amount of labor performed by the medical staff during the war some idea may be obtained when it is stated that 5,825,480 cases of wounds and disease occurred among the white troops, and 629,354 cases among the colored troops. The total expenditure of the medical department to the close of each fiscal year, from June 30, 1861, to 1866, inclusive, was $47,351,982.24 (exclusive of salaries of commissioned officers) for the benefit of the sick and wounded soldiers of the nation." The report says: "It is a matter of just pride that it can be said that the medical disbursing officers performed their duties faithfully and honestly, and that the immense quantities of medical supplies distributed all over the country were, almost without exception, properly accounted for."

To the fidelity and efficiency of this vast body of professional men, the Surgeon-General, in his annual report of 1865, bears the following well-deserved tribute: "I desire to bear testimony to the ability, courage, and zeal manifested throughout the war by the officers of the medical department, under all circumstances and upon all occasions. With hardly an exception, they have been actuated by the highest motives of national and professional pride, and the number who have been killed or wounded bears honorable testimony to their devotion and duty on the field of battle."

Extraneous Duty of an Acting Assistant Surgeon.—Occasionally Acting Assistant Surgeons were called on to perform unexpected duties; for instance: At the battle of Kernstown, near Winchester, in the Shenandoah Valley, which took place in July, 1864, the Second Battalion, which consisted of the Reserve Brigade and Third Division of Cavalry, which left Camp Stoneman, July 5, 1864, was commanded by Colonel Samuel B. M. Young, who is now major of the Third United States Cavalry and Brevet Brigadier-General, United States Volunteers. Colonel Young was a gallant and brave officer, and was wounded and disabled while gallantly leading his men, and had to be removed hurriedly in an ambulance from the field, on account of the vigorous onslaught of the enemy. The fire became so hot that the men were driven back in confusion, the balance of the officers hurriedly left the field, and left the men to take care of themselves. Dr. John T. Nagle, who was an acting assistant surgeon in charge of this command, then took charge, rallied the men, and on the retreat spiked some abandoned guns, had the wheels removed from the gun carriages and caissons, and burned them with a number of baggage wagons to prevent them from falling into the hands of the enemy, and brought the men from the field in good order. The particulars of this engagement appeared in the *Army and Navy Journal* of June 22, 1889, headed "Battle of Kernstown," and in the New York *Mail and Express*, February 2, 1889, headed "Mulligan and his Men."

The particulars are also filed with the records of the command in the War Department, adjutant general's office, and also in the surgeon-general's office with the record of the services of John T. Nagle, late acting assistant surgeon, United States Army.

The fault of the acting assistant surgeon, United States Army, not having been legally mustered was not his; he wore the uniform of first lieutenant and believed that every one wearing the uniform was mustered, and so did every other person that he came in contact with; he was sworn into the service, and he is now confronted with the statement that he is not discharged because he never was legally mustered. Without finding fault with the apparent injustice done him, and without entering into any controversy on the subject, he simply asks to have his services recognized and his position acknowledged, so that he can profit by any benefits that might be attached to an "honorable discharge."

Incomplete and Inaccurate Record of the History of the War of the Rebellion.—The history of the war of the rebellion will be incomplete if the services of the acting assistant surgeons are not recognized with the commands they served with; and the omission of the services from the adjutant-general's office of the 5,532 acting assistant surgeons of the United States Army who served in the field, in charge of the railway hospital service, and in the United States general hospitals, is such an injustice to the medical officers mentioned, as well as to the American people, who are interested in the compilation of a true history of the war of the rebellion, that if for no other reason than to show that the soldiers received proper medical attendance, the bill recognizing their services ought to pass. The bill will in no way entail any expense to the United States Government, and will be a tardy recognition of the services and sacrifices that these eminent and hard-worked surgeons performed for their country during its hour of trial. The bill is as follows:

FIFTY-FIRST CONGRESS, FIRST SESSION, S. 1096.

In the Senate of the United States, December 11, 1889, Mr. Manderson introduced the following bill, which was read twice and referred to the Committee on Military Affairs:

A bill to fix the status of the acting assistant surgeons of the United States Army, or contract surgeons, who served in the war of the rebellion.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That all acting assistant surgeons of the United States Army, or contract surgeons, who served in the war of the rebellion, and whose services were honorably terminated, be commissioned as acting assistant surgeons of the United States Army, the date of contract to be the date of commission and muster into the service, and the date when the service was honorably terminated, or the contract annulled, to be the date of discharge or muster out of the service: *Provided*, That any expense attending the issuance of a commission as acting assistant surgeon of the United States Army be borne by the applicant for such commission: *And provided*, That no pay or allowance be made to any such acting assistant surgeon or contract surgeon by virtue of this act.

This bill was introduced in the United States Senate on December 11th, by General Charles F. Manderson, United States Senator from Nebraska, a brave and gallant soldier, who was wounded in the service of his country, and is numbered in the Senate as Bill 1096. It was introduced in the House of Representatives on December 18, 1889, by the Honorable Amos J. Cummings, member of Congress from New York, a well-known and brilliant journalist, who served as sergeant-major in the Twenty-sixth New Jersey Volunteers during the war. The bill in the House of Representatives is numbered H. R. 603.

Among those interested in this bill are many who were commissioned medical officers during the war, but who served as acting assistant surgeons, United States Army, during some period of the war of the rebellion. The following are some of those who are most actively interested:

L. S. TESSON, M.D., Fort Sidney, Neb.

H. A. ROBBINS, M.D., Surgeon, Kit Carson Post No. 2, and Medical Director, Department of the Potomac, G. A. R., 1226 Fifteenth Street, Washington, D. C.

William Balser, M.D., Surgeon, Koltes Post No. 32, and formerly Medical Director, Department of New York, G. A. R., 218 East Thirteenth Street, New York City.

John T. Nagle, M.D., formerly Surgeon of Post Sedgwick No. 11, Department of New York, G. A. R., 47 East Twenty-first Street, New York.

G. M. Bradfield, M.D., Surgeon of Post ——, G. A. R., Department of Philadelphia, Pa., 1236 Spring Garden Street, Philadelphia.

George E. Stubbs, A.M., M.D., 616 Walnut Street, Philadelphia, Pa.

James V. Patterson, M.D., 104 West Penn Street, Germantown, Philadelphia, Pa.

F. P. Pfeiffer, M.D., 222 North Second Street, Camden, N. J.

E. H. Klüber, M.D., Ellinwood, Barton County, Kan.

J. E. Brooke, M.D., Plymouth, Marshall County, Ind.

C. R. Reed, M.D., Middleport, O.

S. C. Ayres, M.D., 64 West Seventh Street, Cincinnati, O.

Thomas Morrison, M.D., formerly of the Army of the Cumberland, Wayne, Mich.

George M. Paullin, M.D., Shiloh, N. J.

T. O. Bannister, M.D., Odell, Ill.

J. H. Brownlow, M.D., 55 Caroline Street, Ogdensburg, N. Y.

Charles H. Bowen, M.D., 601 Massachusetts Avenue, N. W., Washington, D. C.

J. B. Crandall, M.D., Sterling, Ill.

N. A. Robbins, M.D., Fire Department, Brooklyn, N. Y.

Adolph Kessler, M.D., 644 Lexington Avenue, New York City.

J. O. Stanton, M.D., 1344 G Street, Washington, D. C.

Thomas G. Morton, M.D., 1421 Chestnut Street, Philadelphia, Pa.

J. P. Barnum, M.D., 543 Fourth Avenue, Louisville, Ky.

Robert J. Reilly, 3300 Meramac Street, St. Louis, Mo.

Clinical Department.

DEATHS FROM SNAKE-BITES.

By JAMES T. THOMAS, M.D.,

ALBXANDRIA, NEB.

The following is sent in answer to the request of Dr. H. H. Hopkins, in the Medical Record of October 17, 1889, for reports of cases where death resulted from snake-bite:

J——, an American boy, between four and five years of age, son of Philip T——, of Dakin, Neb., while coming home from school, with his older sister and other children, June 3, 1882, was bitten by a rattlesnake on the inner surface of the right foot, in front of and below the malleolus.

During the evening and night about one pint of whiskey was given him, which produced only slight symptoms of alcoholism. He slept about four hours during the night, and in the morning his father refused to have more whiskey given him. June 4th he ate a light breakfast, but about 9 o'clock was more restless, but not in much pain. The swelling in the foot began immediately, continuing unabated until death, at which time it extended from the foot to the crest of the ilium. The skin was cold, tense almost to bursting, and spotted. At 1 P.M. he called to his mother, saying there was not air enough in the room; he could not breathe. She immediately turned his face toward a window, he dying in the act. I was not an attendant, but was conversant with the case at the time.

Another case, which I believe to be a death from snake-bite, gives this history: A German boy, between four and five years of age, started to go to his father through an oats stubble field (a favorite resort for snakes) on an August day, 1888, but returned to the house, saying he had hurt himself, and in a short time was sick at the stomach, his foot pained him and began to swell, showing two scratches. The next day he was treated for erysipelas. On the third day from the first illness he died suddenly, with limb swollen up to body, spotted, and cold. There was no fever. These particulars were given by the boy's uncle within a week of his death.

I remember reading, a number of years since, in a Beatrice (Neb.) paper, of the death of a young man in October from a snake-bite in July. He was binding or shocking grain in the harvest-field, and while in the act of picking up his bundle was bitten on the arm by a rattlesnake. The bite received immediate treatment, but a slough formed, and things went from bad to worse; amputation was refused, and patient died.

In the first case, the chain of evidence is clear of a snake-bite June 3d, death June 4th, and previous good health. In the second, the history of good health is clear to the time of going into the stubble-field, the shock causing sickness and a drowsiness, which obtain in snake-bite and not in erysipelas. Death on the third day, with a limb swollen to, and including part of, the body, as an effect of erysipelas in two small wounds of foot, would be a startling history. Absence of fever, and the fact that there were no other cases in that vicinity, either immediately prior to or following this case, does not accord with our accepted theories of that disease; but if snake-bite is accepted as possible, there is nothing in the history to antagonize it.

On case three I make no comment, save that I have seen cases wherein such a termination was entirely within the line of possibility. While I am opposed to the whiskey treatment of snake-bite, I do not believe it responsible for any considerable amount of alarming symptoms. If there was no considerable disturbance of the normal condition, the result of whiskey would be "a plain drunk." All lay rules for administration of whiskey in these cases advise stopping at this point. From an observation of twenty-seven cases of snake-bite, within my own practice, I draw these conclusions. The primary effect of snake-bite is to cause nausea and drowsiness, from its action on the nervous system, and this within a short time. The secondary effect is destruction of tissue immediately surrounding the bite. I believe this secondary effect and its natural consequences to be the only danger to man in case of rattlesnake bite, and the controlling elements the power of resistance and rapidity or slowness of absorption in the individual case. To Dr. Hopkins' treatment I would suggest the use of a solution of permanganate of potassa to the bitten part as an addition only. It is the only drug I have much use for in snake-bite, and it is a success.

A MALIGNANT GROWTH IN A HERNIAL SAC (INGUINAL VARIETY) — OPERATION — RECOVERY.

By THOMAS H. MANLEY, M.D.,

NEW YORK

In the Medical Record of October 12, 1889, there appeared an article from the pen of Dr. Daniel Lewis relating a most unique and interesting complication of a hernia; and now, by a singular coincidence, I have, within a month, had another of those remarkable cases of cancer developing in a hernial sac; and as they are so rare and seldom met with, yet full of interest, I have deemed the case one well worth recording.

The history is briefly as follows: The patient came to Harlem Hospital on the evening of October 10, 1889, entering just as I was about leaving the hospital after my afternoon's clinic. He was an Italian, thirty years of age. He informed us that, fifteen years previously, after making a heavy lift, he felt a severe pain in his right groin, and immediately thereafter he saw a swelling, which still remained. This enlargement gave him no trouble until ten days before he came to the hospital, when, while lifting

a heavy stone into a wagon, he bruised the parts, and since had had no relief from pain.

On examination a swelling was found, of pyramidal form and stony hardness. It followed along the course of the spermatic cord in its upper part, and extended along upward into the inguinal canal. He was somewhat feverish, with quick pulse and coated tongue. His abdomen was tympanic and exquisitely sensitive. The bowels had not moved for four days, and on the day of admission he had vomited three or four times.

It looked as though he had a strangulated hernia; but there were many features in the case which would exclude it. Among these were the stony hardness of the swelling, and the fact, as we learned, that it was common for him to have his bowels constipated for several days at a time. Besides, it appeared that he had had the soreness in the abdomen since he was injured by the falling stone.

The enlargement might be due to an encysted hydrocele of the cord, or any one of the large variety of benign neoplasms.

Though the pathological character of the part affected was decidedly obscure, there could be no doubt that the man had much pain, which emanated from the affected location.

I was quite satisfied in my mind that he had a hernia, which was nipped somewhere along its neck by a constricting band.

I directed the house-surgeon, Dr. T. Currie, to do the operation, reminding him that if he found that there was no hernia, or that the parts had undergone such structural changes that he might be much embarrassed in the proceeding, then he must proceed no farther, but protect the incision with antiseptic dressings until I could go on with the operation myself.

I learned by telephone, an hour after I left the hospital, that the operation was begun, but owing to the condition of things met with it was discontinued.

The following day, at 11 A.M., I reopened the wound, and found beneath, and thoroughly incorporated with the coverings of an old incarcerated hernia, a new-growth, as hard as cartilage, extending from about four inches below directly into and through the inguinal canal. The tumor lay immediately over the spermatic cord, with which it was intimately adherent. It was evident from a most casual examination that our patient had had a hernia, and, owing to a badly fitting truss its coverings had taken on adhesive inflammation, and had soldered or fused everything in that situation into one mass.

In dissecting upward, following and stripping the growth of its coverings, I found that it extended into the peritoneal cavity. The mass consisted of omentum undergoing pathological changes. There was no strangulation of the bowel, though the neck of the growth, as it emerged from the internal ring, was bound firmly down till I released it by a free dissection. Now the mass was cut off on a line with the internal ring, and the operation completed by the McBurney method.

The operation was followed by immediate and permanent relief from pain. Dr. Ferdinand Kneer, of the Loomis Laboratory, very kindly made sections of the neoplasm and microscopical examinations for me. He reported that he found the mass to consist of a fibrosarcoma, the sarcous elements being derived from the connective tissue of the omentum. He further informed me that the diseased process commenced in the mass outside the ring, and thence, through the lymph-channels and blood-vessels, extended upward to the ventral cavity. Our patient has made a good recovery.

Dr. Lewis speaks of the liability of benign growths to take on malignant changes. That this does sometimes occur no one doubts; but does the doctor designate a protruded intestine or piece of omentum a tumor or growth? His case and mine were in no sense tumors. We know that malignant changes in the latter are common, but that the contents of a hernial bag would undergo this I never supposed until I read Dr. Lewis' very interesting report and encountered a case in my own hospital service.

302 West Fifty-third Street.

Progress of Medical Science.

The Surgical Treatment of Typhlitis.—From a paper by Dr. Treves, published in the *British Medical Journal*, we take the following: 1. The operation should not be performed until all inflammatory and other symptoms have quite subsided. 2. The incision should be made obliquely from above, downward and inward over the cæcal region, its lower extremity ending just external to the epigastric artery. The incision should not be made directly over the appendix or over the dullest region. If it be so placed a number of adhesions will probably be encountered, and the demonstration of the peritoneal cavity might be difficult. The cæcum or the appendix might be actually adherent to the anterior abdominal wall. The incising of the peritoneum should, therefore, be conducted with the very greatest care. It is well that the parietal cut should open the abdomen at a point just beyond the diseased area, and where no adhesions exist. 3. When the appendix and cæcum are exposed, the area of the operation should be cut off from the general abdominal cavity by sponges. If this plugging with sponges be well carried out, no blood should enter the peritoneal space. 4. All adhesions should be divided by cutting; none should be "broken down." The latter measure is apt to tear the bowel, or, at least, to bare it of peritoneum. 5. The appendix should be lightly clamped close to the cæcum, and should be divided about half an inch from that intestine; it should not be secured by a simple ligature. The mucous membrane should be united by many fine sutures, or by a continuous suture; then the divided outer walls of the process should be brought together by a second row of sutures; it is practically impossible to bring the serous coats together. To still further secure the orifice, the stump of the appendix might be lightly attached to any adjacent surface of the peritoneum. 6. The abdominal wound should be closed; no drain is required.

Action of the Liver on Poisons.—Dr. Roger points out that the liver modifies the toxic effects of several poisons, as has already been noted by Schiff, Hegar, Jacques, and Lautenbach. He has performed certain experiments which demonstrate clearly its modifying action with regard to nicotine, atropine, quinine, and strychnine; also certain putrid and intestinal poisons, peptones, and some salts, particularly ammoniacal salts. On the other hand, the liver exercises no influence over other substances, such as digitaline, some salts (potash and soda), glycerine, etc. The liver, therefore, like the kidney, possesses an elective action. To control these results it is necessary that the poison should be absorbed very slowly. In the case of a diseased liver (cirrhosis, fatty degeneration, etc.), in which the parenchyma no longer contains glycogen, the liver does not act on poisons, but it suffices to administer substance capable of forming glycogen to see the hepatic gland again competent to transform poisons. The action of the healthy liver is continually exerted against toxic substances in the system, it is still more marked in those infectious diseases in which decided toxic effects are produced. Some clinical facts go to prove that many morbid symptoms are due to insufficiency of the liver in regard to poisons.—*The Provincial Medical Journal.*

Does Salting Meat Destroy Bacteria?—Professor J. Forster, of Amsterdam, has published an account of some investigations made in his laboratory by himself and De Freytag, having for their object the determination of the effect of the common process of salting or pickling meat on various forms of bacteria. It was found that cholera bacilli were soon destroyed under the influence of abun-

dance of salt, usually in a few hours; but that typhoid bacilli, pyogenic staphylococci, the streptococci of erysipelas, and the bacilli of porcine infectious diseases frequently retained their vitality for several weeks, or even months, in spite of the presence of abundance of salt. The same was also true of the bacilli of tubercle. In some cases these bacilli were found alive after being two months in pickle, their vitality being proved by their capacity for infecting new cultures. Portions of the viscera of a tuberculous animal, preserved for a considerable time in salt, were found capable of causing tuberculosis in a healthy animal when introduced into its peritonea, cavity. Experiments on the spleen of an animal which had died of malignant anthrax showed that salt possessed the power of destroying the bacilli of this disease in about eighteen hours. These, as well as cholera bacilli, were found to require seven and one-half per cent. of salt to destroy them. From these facts it would appear that salting or pickling has but little destructive effect on many of the more common forms of bacilli liable to be found in diseased meat.—*The British Medical Journal.*

Iodoform Oil in Tuberculous Affections of Bones.—Iodoform oil is at present used in Germany for treating tuberculous affections of joints and bones. This oil is injected into the affections of joints and bones. This oil is injected into the tissues just like a solution of iodoform in ether, which, however, has been given up for reason of its extreme painfulness, and of its occasionally causing gangrene. A twenty per cent. mixture of iodoform with olive-oil, prepared fresh for each injection, is used. Part of the iodoform will decompose if this mixture is kept for some time, such decomposition being easily found out, as it causes a reddish-brown coloration; 30 to 45 minims of this mixture are injected every eight days, on different places, by the aid of a Pravaz syringe. Previous careful disinfection of the skin is advisable.—*The Provincial Medical Journal.*

Operative Treatment of Carcinoma of the Tongue.—Dr. Krause reports statistics derived from all cases of carcinoma of the tongue operated on at Professor Volkmann's clinic in Halle between the years 1875 and 1888. Of the 91 cases operated on there is only a mortality of twenty-two per cent. due to the operation (*The Annals of Surgery*). In no case has there been any phlegmonous inflammation of the deep cellular tissues of the neck. As regards the technique of the operation, Volkmann has completely abandoned the ligation of the lingual artery as the first step in the operation, for even when the linguals are tied the hemorrhage is much greater than by the method he now employs. Tamponing of the trachea is also condemned as dangerous, for in Volkmann's opinion tracheotomy is not so harmless a procedure as it is generally supposed. Two methods of operation are employed in the clinic at Halle, according to the position, size, and extent of the carcinoma. If the tumor can be drawn as far forward as the teeth, by means of a hook or fillet, the new-growth is simply removed with the knife and scissors. (Under these circumstances there is no danger of the blood entering the larynx; the patient, deeply narcotized, is seated upon a chair during the whole course of the operation.) The hemorrhage being arrested, the wound is united, or if only a small piece of the healthy side of the tongue is left, this is turned back and united to the stump, leaving the patient with a shorter but broader tongue. In cases where the tumor is too far back to be drawn out sufficiently, or if the disease has invaded the floor of the mouth, the palate, or tonsils, Volkmann employs Langenbeck's procedure of lateral section of the lower jaw. The patient is chloroformed in a half-sitting posture, and the tongue is drawn forward by means of a loop or tenaculum. The canine and first molar teeth are then extracted, if needed, and a vertical incision is made from the angle of the mouth down to the larynx, cutting through to the periosteum of the jaw, above, but below only dividing the skin. The periosteum is then removed from the inferior maxilla and the bone sawed through with a flat saw. Then both parts of the bone are strongly pulled apart, and all the soft parts of the floor of the mouth are then cut in the line of the first incision. This affords ample space to remove any of the infiltrated glands which may be present, and for ligation of any bleeding point. The anterior palatine arch is always cut through, and a drainage-tube is introduced into the niche of the tonsil and brought out externally and terminates about the level of the larynx, thus preventing the secretions and fluids from gaining access to the trachea. After removal of the diseased part, the tongue is sutured, and the whole wound closed by the sutures if possible; if not, iodoform gauze tamponade is employed. The edges of the bone are united by a silver-wire suture. As regards the after-treatment, the patient is placed in a semi-reclining posture, and is fed by fluids which are poured into the back of the mouth by means of a vessel with a long neck. The majority of patients operated on are able to swallow even a few hours after the operation, or at the latest on the following day. After each meal the mouth is washed out with some harmless antiseptic solution, usually boric acid. This mode of operation is, according to the writer, satisfactory in every respect, and it affords a large field for operation, and is attended with only slight hemorrhage. During the operation the flow of blood into the trachea is absolutely prevented, since the epiglottis is always in sight, and is situated on a higher level than the wound. The secretions from the mouth and wound are afforded a free exit through the drainage-tube. The mortality after such an extensive and radical operation is not very high, only 2 deaths in 35 cases. In 56 partial extirpations of the tongue, done between 1875 and 1888, there were no deaths.

Methyl Chloride as a Local Anæsthetic.—Dr. Ernst Feibes, draws attention to the extensive and successful use in the Paris hospitals of methyl chloride as a local anæsthetic. Methyl chloride (CH_3 Cl) is a colorless, easily liquefied gas, with an odor resembling that of ether and chloroform. The readiness with which the gas liquefies adapts it for convenient use, as it can be stored in a siphon, or in a bottle of any size specially constructed to conduct heat badly. It may be applied to any surface directly from the siphon, or as a spray, but this method is objectionable, owing to the anæsthetized area not being in most cases sufficiently circumscribed. Bailly uses the following method, which he calls "stypage:" Tampons composed of cotton-wool, surrounded by a layer of flock-silk and then covered with thin silk, are saturated with methyl chloride, and applied to the part by means of wooden or vulcanite holders. After contact for some seconds, the part gets pale and anæmic, and diminishes in sensitiveness. If the tampon be then removed there is marked reaction, shown by congestion and slight itching; but if the application be continued for a short time longer (a few seconds) the skin assumes a white, dried, parchment-like appearance. This is the time to operate. If you proceed further, superficial necrosis may result. The application is sometimes succeeded by itching and an urticaria-like eruption. It is employed in all kinds of small operations—circumcision, opening abscesses, and in neuralgia, lumbago, muscular pains, gout, etc. In scraping lupus it is best applied by means of a camel's-hair brush, as special parts can then be anæsthetized with perfect precision.—*The British Medical Journal.*

A Modern Malthus.—Mr. Drysdale has some very radcial ideas on the need of limiting the population of the world. He thinks that it is the duty of governments to discourage large families, and proposes that a tax be levied on every child in families where the number of children exceeds four. "A bill to encourage infanticide" would not be apt to meet with a very favorable reception in most legislatures at the present time, however popular it might become in the year, say, 2000.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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New York, February 1, 1890.

INFANT FOODS AGAIN.

THERE is still no medical problem much further from satisfactory solution than that of infant feeding. Not but that much progress has been made, both scientifically and practically. But it is still true that in public institutions nearly all young infants artificially fed die. And it is still a fact that eminent specialists in children's diseases quite disagree as to what is the best kind of food for infants. Some praise sterilized milk, others think highly of crown wheat and certain infant foods, or of cream and diluted milk, or milk and barley-water.

An interesting and profitable illustration of this fact is seen in the two articles on infant feeding which were read before the American Pædiatric Society last summer.

Dr. Arthur V. Meigs holds strongly to the view that human milk contains a smaller amount of casein than is usually believed to be the case, viz., about one per cent. He favors, therefore, first, the dilution of cow's milk, and then the addition of cream, sugar of milk, and lime-water. His directions are as follows: "One quart of good ordinary milk is placed in a high pitcher, or other vessel, and allowed to stand in a cool place for three hours; then one pint is slowly poured off from this, care being taken that the vessel is not agitated, the object being to obtain the upper layer of fluid, rich in fat, and leave the lower, comparatively poor, portion behind. When the child is to be fed, there are taken of this weak cream three tablespoonfuls, of lime-water two tablespoonfuls, and of sugar-water three tablespoonfuls. The sugar-water is to be made in the proportion of eighteen drachms of milk-sugar to one pint of water. This makes only four ounces of food, and if the infant is old enough to require eight ounces at once, double the quantities of each of the ingredients must be mixed. This is simply warmed in a bottle, as usual, and is then ready for use."

After the discussion upon Dr. Meigs' paper, Dr. J. Lewis Smith contributed the results of his experience in baby feeding, giving an interesting history of the extraordinary mortality that used to occur among bottle-fed babies in the Foundling and Infant Asylums of this city.

Dr. Smith lays down the following preliminary propositions:

1. Mothers who are capable should nurse their infants until the age of ten or twelve months.

2. Good wet-nurses are preferable to bottle-feeding; but good wet-nurses are hard to get.

3. Animal milk should be the basis of all artificial foods.

4. Animal milk, *i.e.*, cow's milk, contains an excess of casein and is hard for infants to digest. This can be overcome by sterilizing the milk, by peptonizing it, or by adding to it some farinaceous substance like barley flour.

5. Infants cannot digest starch easily, but can digest starch after it is converted into glucose and dextrine by the action of diastase or prolonged heat.

6. Food which is entirely predigested should not be systematically and continuously given to infants.

Dr. Smith, working on the above principles, prepares a food for infants as follows: Milk is obtained from a trustworthy source; it is sterilized. Barley flour subjected to boiling heat for seven days is used as the farinaceous element; and the following directions are given: "Add a heaped tablespoonful (nearly two even tablespoonfuls) of the flour to eighteen of cold water, which has been boiled. The gruel may be brought to the simmering point, to facilitate the admixture. For infants over the age of six months, in ordinary health, six tablespoonfuls of the sterilized milk and six of the gruel may be mixed for one feeding. Salt should be added until it can be tasted.

"For infants between the ages of three and six months, and for those older than six months who have symptoms of indigestion or gastro-intestinal catarrh, it is advantageous to peptonize the milk. Five tablespoonfuls of milk, two of the barley flour, two of water, and the peptogenic powder as much as fills the small measure which accompanies the powder should be mixed and heated six minutes with constant stirring, but not at a temperature too hot to be sipped. The food thus prepared should be fed to the infant at intervals of three hours, or, if it be hearty and fretful, at intervals of two and a half hours."

The inquiring practitioner will feel still somewhat in the dark after reading the above descriptions of baby foods. If he pursues his investigations, he will find other highly recommended combinations, and if he begins to investigate the baby foods on the market his mind will get in a delirious whirl of unexceptionable and emphatic medical testimonials.

There seems to be but one conclusion to be drawn from the experience so far gathered, and it is that each baby must be treated individually and empirically, and the food best adapted for it given. In many cases the foods described above cannot be prepared without great inconvenience or expense, and there are babies who will thrive on neither but who will do well on some other artificial food.

We do not wish to disparage the formulas given by Dr. Meigs and Dr. Smith. They undoubtedly represent foods which have a wider range of application than almost any others; but no single artificial food seems yet to have been devised which will be the best for all babies. The tendency of professional opinion is decidedly to do away with the artificial baby foods so extensively put upon the market, and in which so much money has been invested that some babies have got to take them in order to support the corporations.

A DIPLOMA-SELLING RING.

The Boston *Globe* has a long and sensational article purporting to be obtained from a member of a ring dealing in medical diplomas. This man states that the business of selling diplomas is well organized and systematically carried on. The work began about forty years ago, and has been continued steadily ever since. There are, he states, about fifty men in this country now engaged in the business, and a somewhat less number in Europe. There are fifteen or twenty medical colleges, so called, which sell their diplomas at a price ranging from $25 to $150. It is estimated that there are seven to eight thousand of these bogus diplomas now in this country, and nearly thirty thousand in Europe.

We are inclined to think that the story is mostly an idle fabrication.

WHERE A NEW DISPENSARY IS ACTUALLY NEEDED.

On the occasion of the laying of the corner-stone of the new Eastern Dispensary in this city, the distinguished divine, Dr. John Hall, made an address in which he said "it was only necessary to look around at the buildings of the neighborhood to be satisfied of the necessity for such a public charity as the Eastern Dispensary. He praised the work of those who had kept up the dispensary, and concluded by saying that, with God's blessing, it would continue to be a practical benediction to the poor."

How would these remarks apply to the dispensary of the Presbyterian Hospital, surrounded as it is by palatial residences and in a portion of the city noted for the wealth of its inhabitants. But probably we need dispensaries for the rich as well as for the poor, the same as with our churches, of which we are told the dispensaries are the efficient helpers.

Last year, 61,228 patients were treated at the Eastern Dispensary, and the doctors made 106,748 visits and consultations. There was an average daily attendance of 420 persons, all poor and needy. How do these results compare with those of the expensive plant up-town?

With the Vanderbilt clinic on the west side the case is somewhat different, as it was established for the purpose of supplying clinical material for the College of Physicians and Surgeons and Roosevelt Hospital, and of course, an interesting case, rich or poor, must be made available.

Solvine is the name of a new substance formed by mixing sulphuric acid and castor-oil, removing the excess of acid, dissolving the residue in water, and treating a precipitate, which gradually falls, with a mineral acid. The resultant liquid is of a clear yellow color and of an oleaginous consistence. The substance possesses very marked solvent properties, and passes readily through animal and vegetable membranes, being therefore absorbable by the skin. It is said to dissolve the red blood-globules when injected hypodermically, and is thus not to be regarded as a very safe substance for use in ointments. Indeed very pronounced toxic symptoms are reported to have followed the application of a solution of naphthol and solvine to the mucous membrane. Berlioz, who presented the substance at a recent meeting of the Therapeutical Society in Paris, proposed to call it sulphoricinic acid.

News of the Week.

Professor T. Gaillard Thomas' Book Translated into Chinese.—It is a matter for much congratulation to notice the influence which American medical literature is exerting in different parts of the world. The most recent example of the sort is the translation of Thomas' "Diseases of Women" into the Chinese language, to be read in true antipodal fashion, upside down, but always able to hold its own, nevertheless. Our distinguished townsman, since the first appearance of his admirable treatise, has been doing a great deal of missionary work, and through the different translations into German, Italian, French, and Spanish, he has gained a deservedly large and appreciative audience; but to carry his doctrines literally to the ends of the earth leaves nothing to be said concerning their influence, truth, and power.

Dr. James P. Lynde, of Springfield, Mass., died January 21st, aged sixty-one years.

The Medical and Surgical Society of Baltimore.—At the annual meeting of the Medical and Surgical Society of Baltimore the following officers were elected: *President*, Dr. H. T. Rennolds; *First Vice-President*, Dr. David Street; *Second Vice-President*, Dr. E. J. Williams; *Recording Secretary*, Dr. J. Wm. Funck; *Corresponding Secretary* and *Treasurer*, Dr. Wm. H. Norris; *Executive Committee*, Dr. D. W. Cathell, Dr. R. W. Mansfield, Dr. J. W. Chambers.

Brown-Séquard's Elixir will perhaps take a new lease of life. The venerable discoverer of it has come again with further facts in its favor and a new method of taking it, viz., by rectal injection. In the *Archives de Physiologie normale et pathologique*, Dr. Brown-Séquard cites the results of some very exact experiments made by Dr. R. Suzor, of the island of Mauritius. The experiments were made upon two lepers, who, after an injection of testicular juice, showed striking improvement in nervous and cutaneous symptoms. Dr. Brown-Séquard cites a case of impotence cured by the injections.

Death of Sir W. W. Gull, of London.—Sir William Withey Gull, M.D., died in London, January 29th, after a second stroke of paralysis. He was physician in ordinary to the Prince of Wales, and was knighted in recognition of distinguished services to the Prince during 1871, when his Royal Highness had an attack of typhoid fever at Sandringham.

Reduced Fare for Delegates to the State Society.—The fare for delegates throughout the State of New York will be at the rate of a fare and a third for the trip. Ticket agents along the line will supply certificates, which must be signed by Dr. Curtis on arrival in Albany. Delegates from this city may apply to Dr. Ralph Waldo, 215 W. Twenty-third Street. The meeting is to be held in Albany Tuesday next.

Dr. Sidney Allen Fox is the name of the gentleman referred to in our last issue as taking part in the discussion on Expert Testimony before the Kings County Medical Society, and not Dr. Sidney Allen as reported.

Professor Botkin, one of the best-known physicians of Russia, died on December 24th.

Obstetric Section, New York Academy of Medicine.—At a meeting of the Obstetric Section of the Academy, held January 23d, the following officers were elected: *Chairman*, Dr. Egbert H. Grandin; *Secretary*, Dr. I. H. Hance.

Clinton County (N. Y.) Medical Society.—At the annual meeting Dr. J. G. McKinney was elected president for the ensuing year.

Insane Asylum Fire.—The insane asylum at Worcester, Mass., caught fire on the night of January 19th. All the patients were safely rescued. Damage, $6,000.

The Grady Hospital at Atlanta, Ga.—Atlanta has decided to build a city hospital to be named after Mr. H. W. Grady, for which over $45,000 is now on hand. The hospital is to be for the equal accommodation of both white and black patients.

To Stop Unwelcome Visitors.—The Pennsylvania State Board of Health has notified the Scranton Board that about three hundred Norwegians suffering from typhus fever have just been landed from the steerage in New York, and that a number of them are booked for this city. A meeting of the Scranton Board of Health was held to take necessary action in the matter, and Dr. Allen, the health officer of the city, was instructed to keep a sharp lookout for the visitors.

Severely Burned in a Laboratory.—While F. M. Miller, a medical student of the University of Pennsylvania, was working in the pathological laboratory yesterday afternoon, he attempted to pour some alcohol into a lamp which he thought was not lighted. Mr. Miller was immediately enveloped in a mass of flames. Drs. Formad and Smith and several of the students came to his rescue, and succeeded in extinguishing the flames. Mr. Miller was badly burned about the face and head.

Schenectady County (N. Y.) Medical Society.—Dr. George E. McDonald was elected president for the ensuing year.

Dr. William F. Peabody, one of the oldest and best known physicians on the Pacific slope, died on January 27th, at San Francisco, aged seventy-three. Dr. Peabody was born in New Hampshire, but acquired his medical education at the University of Maryland.

The Treatment Was Proper.—Willie Kelly's suit against Dr. Robert A. Black, of Brooklyn, N. Y., for $25,000 damages for the alleged improper treatment of a broken arm, ended January 27 in a verdict for the defendant. The jury was out only half an hour, and the result may be viewed as a complete vindication of Dr. Black, and a legal triumph for Lawyer J. J. Leary. Professor Jarvis Wight and Professor E. A. Lewis, of the Long Island College Hospital, and Dr. L. P. Schenck, of the Kings County Hospital, testified that the treatment of the arm, as shown by the plaintiff's own testimony, was proper, and that in their view nothing had been left undone so far as the surgical treatment was concerned. Two things, it was shown, were necessary in such a case; a proper setting of the bone and complete rest. It was shown that the boy was seen playing on trucks with his bandaged arm, and jumping off sheds, and that he fell on the stair of the Brooklyn Theatre when trying to get past the ticket-taker.

Small-pox in Mexico.—Small-pox prevails in Mexico, and quarantine has been declared along the Texas line.

Surgeon-General J. B. Hamilton has gone to Havana to investigate the yellow fever.

The Ills of Our Eminent Confrères.—Our exchanges tell us that Dr. Brown-Séquard has the whooping-cough, Professor Bergmann has just had pneumonia, and Professor Westphal is incurably ill.

The Abolition of the Title of "Doctor."—The *Boston Medical and Surgical Journal* says: "We notice in a lay exchange a racy argument in favor of the abolition of the no longer distinctive title of 'doctor,' as applied to the medical profession." The argument first appeared in the editorial columns of the RECORD, which we trust is not seriously regarded as "a lay exchange."

Floods and Their Results from a Sanitary Standpoint.—Arrangements have been made to hold a Tri-State Sanitary Convention at Wheeling, W. Va., February 27 and 28, 1890. Representatives will be present with papers and addresses from Pennsylvania, West Virginia, and Ohio. The object of the convention is to consider the question of floods and their results from a sanitary standpoint, and the best methods of managing the sanitary interests of a given community after such a calamity. Owing to the mutual relations held by these three States with reference to large rivers, and the numerous towns in each one of these States that are annually affected by floods and their results, it has been thought wise to hold a convention for studying how best to manage the sanitary interests of cities and towns so affected. Every person interested directly or indirectly in this important subject is earnestly requested to be present and assist in discussing the papers, and add whatever information he can to the solution of these practical and most important questions, affecting as they do the health and lives of thousands of citizens of these three great commonwealths annually.

Fees in New York.—The professional fees in New York City are not so extravagant as they are generally believed to be. The general practitioner averages from two to five dollars per visit, according to pecuniary condition of patient. The average fee for visit to the wealthy is five dollars. The office consultation of an expert or general consultant is, as a rule, ten to twenty-five dollars for the first visit and five to ten dollars for succeeding ones. The fee for a consultation visit varies with the reputation of the consultant and the ability of the patient, from ten to twenty-five dollars. Visits out of town are usually from ten to twenty dollars per hour of absence from home, plus the travelling expenses and regular consulting fee of twenty-five dollars. Surgical operations are rated according to character, time, skill, and range, from 100 up into the thousands. The operation fee is charged for as extra of that for time when away from home. Night calls are twice the amount of day services, whether ordinary or consulting visits. Notwithstanding these accepted rules, there are not a few here who can charge much higher fees—in fact, name their own price and get it. On the other hand, there are many younger men in the profession who are content to average a dollar a head for every patient they see, whether in their office or on the top floor of a six-story tenement in the rear. This is true, although we would not like to have it repeated.

Waterbury Hospital.—Waterbury, Conn., has a new hospital, with a full medical staff, a fuller board of managers, and a consequently wide range of usefulness.

Curing More than He Kills.—The Mexicans have no confidence in a young doctor until he has had a couple of years practice. Then they make an inventory of his patients, and if he has cured more than he has killed they recognize him, no matter whether he has a diploma or not.

Medical Society of the County of Kings.—The sixty-ninth annual meeting of this society was held in Brooklyn, on the 21st ult., and the following officers elected: *President*, Dr. W. B. Chase; *Vice-President*, Dr. Frank H. West; *Secretary*, Dr. William M. Hutchinson; *Treasurer*, Dr. Charles N. Cox; *Librarian*, Dr. J. H. Hunt; *Censors*, Drs. Glentworth R. Butler, Z. T. Emery, F. D. Bailey, J. W. Hyde, George W. Brush; *Trustee*, Dr. A. Ross Matheson, and *Delegate to the State Medical Society*, Dr. Ernest Palmer. The librarian reported over eight hundred additions to the library of the society, and two hundred medical journals in the reading-room.

A Child born with the Measles.—Dr. Lomer, of Hamburg, reports a case where a mother gave birth to a child while suffering from measles, it being the second day of the eruption. The child when born showed the beginnings of a measles rash, and subsequently developed the disease in its typical form.

Permission for the Surgeon to Operate.—Medical circles in Belgium, says *The Lancet*, have been considerably excited recently by the trial of an action against a well-known surgeon who is on the staff of a hospital in Liège. More than two years ago a child was brought to the hospital for the advice of the surgeon in question on account of a curvature of the tibia. The mother was told that an operation would be necessary, to which she replied that she must obtain the grandmother's consent. Shortly afterward the child was brought back to be operated on. Unfortunately gangrene supervened, and the child's leg had to be amputated. After the lapse of some two years the father of the child appeared on the scene, and, declaring that his consent to the operation had not been obtained, commenced an action against the surgeon for having operated without it, the result being that the court awarded him ten thousand francs damages as compensation for the loss of the child's leg. The case has been appealed.

"Too Previous" in Practising.—A medical student of the University of Pennsylvania was recently reprimanded by the coroner for practising without a diploma.

Tobacco and the Dog.—The public apparently does not tire of sensational reports of the dreadful and impossible effects of tobacco. We now hear that the French Anti-Tobacco Society has just issued a work calling attention to an alleged new danger attached to the use of the weed. Experiments have been made to determine the effect of tobacco-smoke upon meat and vegetables ready for cooking or prepared for the table, and the result has indicated that the smoke under such circumstances deposits all its poisonous qualities in the food with which it comes in contact. A piece of rare meat, after being exposed for some time to tobacco-smoke, was offered to a dog, who refused to touch it. It was then concealed in some palatable covering, and the dog ate it, and died in a short time. An autopsy showed nicotine-poisoning to have caused death. Poor dog! This is on the dog side of the question if this report is true. But, seriously, what will these fanatical cranks have us believe next?

Reviews and Notices of Books.

HYGIENE AND PUBLIC HEALTH. By LOUIS PARKES, M.D. 12mo, pp. 471. Philadelphia: P. Blakiston, Son & Co. 1889.

THIS popular compend is mostly adapted to the comprehension of non-professional readers, though some mathematical formulæ are retained. The information here given certainly cannot have too wide a circulation. How to select the climate of our habitation, how to construct, plumb, and drain our houses, how to eat and drink, and what to wear—these and all cognate topics are the first concern of every intelligent being.

We have read this book with great interest, and find that it covers pretty nearly the entire ground of hygienic science, much of the material being very newly acquired knowledge, and such as should be extensively promulgated. These facts about every-day affairs come home to us all. Take, for instance, the almost universal practice among bakers of putting alum in bread. Who that has to eat at a New York restaurant does not know to his sorrow that sawdusty, puckery bread? Alum, says our authority, though it improves the appearance of bread made from poor flour, forms with phosphorus in combination an insoluble aluminium phosphate. Take again sulphuric acid as a substitute for vinegar. This acid forms an insoluble sulphate of lime.

Much space is necessarily given to the germ theory of disease. The author inclines to the view that the *modus operandi* of zymotic diseases is that the microbes cause the formation of a poison, though he admits the difficulty of accounting, on this theory, for the immunity from infection when diseased meat is thoroughly boiled before eating, as such boiling would not dissociate these organic poisons.

Where there is so much to commend, a few words of criticism may be allowed.

Dr. Parkes is certainly wrong in saying that bacteria are of the animal kingdom. All bacteriologists may classify them under *algæ*.

The literary style of the book is good in the main, but we notice frequent use of the adverb between the two component parts of the infinitive mood; also we find twice *viri* as a plural of virus.

1. HYPNOTISM, ITS HISTORY AND PRESENT DEVELOPMENT. By FREDRIK BJÖRNSTRÖM, M.D., Head Physician of the Stockholm Hospital, etc. Authorized translation from the second Swedish edition, by BARON NILS POSSE, M.D., Director of the Boston School of Gymnastics. Published by the Humboldt Publishing Co., New York.

2. AN EXPERIMENTAL STUDY IN THE DOMAIN OF HYPNOTISM. By DR. VON KRAFFT-EBLING, Professor of Psychiatry and Nervous Diseases in the Royal University of Gratz, Austria. Translated from the German by CHARLES G. CHADDOCK, M.D., Assistant Professor, Northern Michigan Asylum. Pp. 129. New York and London: G. P. Putnam's Sons.

THE phenomena of hypnotism have from time immemorial been more or less associated with charlatanism and chicanery. Simulation and dissimulation are so easy and so plausible that when, a century ago, the committee appointed to investigate the question presented their report, signed by the great names of Franklin, Lavoisier, Jussieu, and Bailly, wherein they said that "Magnetism is one fact more in the history of human errors, and a great proof of

the power of imagination;" this report was generally acquiesced in as embodying the ultimate conclusion of science.

Facts are stubborn things, however, and it is now conceded that there is a residuum of fact, notwithstanding all that is false and fraudulent, in these phenomena; and a potency for good or evil is involved which calls for careful study and scrutiny.

To define the real nature of hypnotism is as difficult as to explain the philosophy of toxic or therapeutic action of medicine—more so, indeed. None the less, however, does it behoove the practitioner to understand what it does, even if he cannot tell just what it is, or how it operates.

Dr. Björnström's book aims to give a general review of the entire subject, while Dr. Krafft-Ebling merely gives an account of a very remarkable case under his own observation. The former gives his opinion that it should be dealt with by the legislature, like deadly poisons, and none but regular physicians allowed to practise it.

Outlines of the Clinical Chemistry of Urine. By C. A. MacMunn, A.M., M.D. Philadelphia: P. Blakiston & Co. 1889.

This is a well-written book of two hundred and fifty-one pages, resembling a good deal Tyson's well-known work on the same subject. Although it is not intended to take the place of the more comprehensive books, like those of Salowski and Leube, it will prove a valuable guide to practical urine testing. The directions for the different manipulations are clearly described; but the author has but little to say concerning the relations of the abnormal ingredients to clinical medicine. There is a chapter on Urinary Calculi, and there are a number of very good drawings of the urinary deposits.

The Cerebral Palsies of Children. By William Osler, M.D., Baltimore, Md. Philadelphia: P. Blakiston & Co. 1889.

In this monograph, based on a study of one hundred and fifty-one cases of cerebral paralysis in children, which have already been published in the *Philadelphia Medical News*, July 14 to August 11, 1888, Dr. Osler contributes an excellent study of the etiology, symptoms, and treatment of this condition, together with many references to its literature. In regard to its etiology, we note that in nine of his cases injury from the use of forceps seems to have been the cause. The pathological lesions in these cases are various, but the majority are either hemorrhagic, post febrile, embolic, endo- and peri-arterial changes, and encephalitis or thrombosis of the cerebral veins. Treatment depends, of course, very much upon the nature of each individual case.

A Handbook of Physical Diagnosis of Diseases of the Organs of Respiration and Heart, and of Aortic Aneurism. By R. C. M. Page, M.D., Professor of General Medicine and Diseases of the Chest in the New York Polyclinic, etc. New York: J. H. Vail & Co. 1889.

This book cannot help being of great assistance to students and recent graduates in their studies in physical diagnosis. Dr. Page's experience as a teacher has taught him exactly their wants.

The style is throughout clear and logical, and each subject is for the most part fully treated; but a little more detailed description of the manner of production of the various râles and heart murmurs would have been of advantage. With few exceptions, his views coincide pretty closely with those most commonly accepted, but in classifying phthisis, a tubercular and non-tubercular variety are given. If we would regard phthisis as essentially a tubercular process, and then use the term interstitial pneumonia in place of fibroid phthisis, much endless confusion might be averted.

The section on Consumption contains a summary of conclusions reached by the Congress for the Study of Tuberculosis, held in Paris, 1888. The seven beautifully colored plates greatly enhance the value of the work. For those who want a good book on Physical Diagnosis, we can cordially recommend this one.

The Story of the Bacteria. By T. Mitchell Prudden, M.D., New York. Pp. 138. New York: G. P. Putnam's Sons. 1889.

In this little book Dr. Prudden gives us a most interesting description of the bacteria and the rôle which they play in nature. Without going into intricate details, which concern only the practical worker, and without the use of technical terms, and withal in an exceedingly clear and simple way, the story of the bacteria is told, so that the intelligent lay reader cannot fail to obtain an excellent general understanding of this most important subject.

Bacteria are being so much talked about nowadays and so many queer notions are held regarding them, and they are, after all, of so much practical importance, that a correct idea of their nature will lead to much public good.

After describing their form, mode of growth, and some of the non-pathogenic bacteria, those of the more important and better understood varieties are discussed, and their relations to our every-day life clearly pointed out. Although intended for the benefit of the lay reader, physicians will find this book instructive. There is no longer any excuse for one remaining in ignorance of this department of our science, and to a more extended acquaintance in bacteriology this manual will serve as a pleasant introduction.

Lectures on Bright's Disease. By Dr. Robert Saundby, Edinburgh. Pp. 282. New York: E. P. Treat. 1889.

Although the author claims nothing new or original, this book gives us an exceedingly good review of our knowledge of Bright's disease.

In Section I. the more prominent symptoms are discussed, particularly albuminuria and the changes to be observed in the retina. The more recent physiological experiments are detailed, and a number of well-observed cases are introduced. Appended to each chapter is a valuable bibliography.

Section II. is devoted to the clinical examination of urine.

Section III. is on Bright's disease proper. Saundby classifies his cases on an etiological basis under three heads: febrile, toxæmic, and obstructive; the first including all cases of acute or chronic nephritis occurring as a result of acute or chronic febrile disease; the second, those due to lithæmia; and the third, those resulting from obstruction to the outflow of urine. While such a classification may be useful for clinical purposes, we prefer to adopt the one of Dr. Delafield (already published, in the Medical Record) as being more satisfactory and less apt to lead to confusion.

The author's treatment is mainly symptomatic, and we agree with him that we possess no drug by which we are directly able to effect a diminution of the amount of albumin in the urine.

A Text-book of Animal Physiology, with Introductory Chapters on General Biology and a Full Treatment of Reproduction. By Wesley Mills, M.A., M.D., L.R.C.P. (Eng.), Professor of Physiology in McGill University, etc. New York: D. Appleton & Co.

It has long been apparent that for the successful study and teaching of human physiology, the comparative method, the early and full consideration of embryology, and the thorough recognition and application of the principles of evolution are most essential. The practice of simple enumeration of a number of more or less isolated facts, partly derived from observations on man and partly from various groups of animals, in a series of chapters or lectures, without co-ordination and comparison of the lower with higher forms of life—a method too often

pursued in teaching human physiology in medical schools —will in large measure explain the lack of interest in this science on the part of the average medical student. It will explain also his tendency to consider physiology as one of the things to hurry through and get disposed of, instead of one of the most fundamental and important of the disciplines, upon which day by day his future success as an intelligent practitioner and man of science will largely depend.

A book so permeated with the scientific spirit, so broad in its scope, and withal so clear and terse in its treatment of difficult themes, as is this new work of Dr. Mills, is difficult to review in detail without more space than is at our disposal here, or to speak of in general terms without exposing one's self to the charge of extravagant praise.

Gleaning his facts as he does from all parts of the broad and ever-widening domain of biological lore, and observing a most admirable caution in drawing inferences from lower to higher forms of life, physiology under this author's treatment really assumes, as from its nature it ought to do, a most fascinating and instructive aspect. Altogether apart from the knowledge, fully abreast of the times, which may be derived from this book, its value as a means of training the mind in the scientific method should secure for it an immediate recognition and an extensive use in medical schools.

For the rest, the book is liberally illustrated; the detailed treatment of each theme is followed by a terse summary of the more important facts elicited, while by here and there calling his attention to the bearing of his physiological studies on certain pathological conditions, the author keeps the student in touch with the ultimate purpose of his preliminary work, and under a stimulus which he must be very dull to resist.

Ventilation and Warming of Buildings. Pp. 154. Toledo, O.: Isaac D. Smead & Co. 1889.

This is a brochure devoted to the advocacy of the principles of warming and ventilating designed and patented by Isaac D. Smead.

The axiom of chief importance, according to the system, is that promulgated by a Mr. Ruttan, many years ago. Mr. Ruttan's theory affirms "that the point of exit for foul and cold air from a room should be *at* or *below* the floor-level, instead of, as then supposed, at the *top* of the room; and that a large volume of moderately warmed air should be supplied, instead of a small quantity of hot air."

Ingenious and obviously correct as is this theory of Ruttan, the latter did nothing toward carrying it out in practice. Indeed his failure to do so is readily accounted for when it is borne in mind that he was eighty years old when he published his book on the subject of ventilation and warming.

The credit of carrying out the various delicate points connected with the practical elaboration of this scheme belongs, apparently, to Isaac D. Smead, of Toledo, O., who has devoted years of study to the subject, and whose apparatus, in its perfected form, has been introduced into a large number of important buildings, both public and private.

The book is suggestive, and will repay a perusal, quite irrespective of its obvious commercial character.

Diphtheria: Its Nature and Treatment. By C. E. Billington, M.D.; and Intubation in Croup and other Acute and Chronic Forms of Stenosis of the Larynx. By Joseph O'Dwyer, M.D. New York: William Wood & Co. 1889.

Works upon diphtheria are sufficiently common the world over. Good ones, however, are rare. The authors of this are such well-known and popular authorities upon the subject that the expectations of the reader will be considerably excited. Fortunately, moreover, they will be fully realized. It is but fair criticism to characterize this treatise as the most useful one of its kind, in any language, which has thus far appeared. The book has as its basis the various excellent monographs which have been presented by Dr. Billington during the past fifteen years. These, however, have been thoroughly rewritten, greatly amplified in scope, a large amount of new material added, and, better still, the views contained in them have been verified by experience both long-continued and remarkably wide in extent.

Such chapters have been added as were necessary to complete the work, including an appendix upon the subject of intubation of the larynx. A successful attempt has been made to avoid overloading the book with unnecessary matter, as well as to present a clear and succinct statement of those facts in existing knowledge which are most essential to the formation of an intelligent opinion as to the nature of diphtheria itself, and of those therapeutical principles and details, the understanding and application of which will enable the physician to meet it with best results.

The book is divided into twelve sections, each one of which is deserving of special mention. When it is considered that 110 pages are devoted to the subject of "treatment," the great practical value of the work will be understood. In this chapter—following the presentation of the general indications, principles, and results of treatment, and the modes of employing remedies—is given a long series of subsections, in which all of the remedies and measures approved at the present time are presented. The methods and their application are explained in detail, the opinions of those advocating them fairly presented, and, in most instances, the results obtained from their use by the author frankly stated.

The appendix, upon intubation, is a clear and able exposition of the most recent methods and views of Dr. O'Dwyer relating to the performance of that admirable procedure, which, in common with its distinguished advocate, has become so justly famous.

The book contains 325 pages, and is illustrated by thirty-four wood-cuts and four excellent colored lithographs. Its mechanical execution leaves nothing to be desired.

In short, the authors are to be congratulated upon having presented a contribution which can hardly fail of receiving from the careful reader the highest praise; while by the busy practitioner who requires a work to which he can make hasty reference, with the certainty of finding advice at once full, clear, authoritative, and of the highest value, it will be welcomed as an invaluable aid.

Syphilis und Auge, nach Eignen Beobachtungen. By Dr. Alexander. Pp. 234. Wiesbaden: Verlag von J. F. Bergmann. 1889.

As medical director of the ophthalmological establishment at Aix-la-Chapelle, Dr. Alexander has been in an exceptionally favorable position to study the ravages of syphilis about the eyes.

Some idea of the comprehensiveness of this excellent monograph may be gleaned from a perusal of the various subjects treated of in the ten chapters of which it is composed. These are: General statistics; manifestations of syphilis in the eyelids; in the orbits and lachrymal apparatus; in the cornea and sclera; in the iris, the corpus ciliare, and the choroid; in the retina and optic nerve; in the muscles of the eye; and in impairment of the functions of the n. facialis and n. trigeminus. The two concluding chapters are devoted to hereditary sypnilitic affection of the eyes, and the treatment of diseases of the eyes of syphilitic origin. Though a number of monographs have already appeared, dealing more or less thoroughly with syphilitic affections of the eyes, it is safe to say that there is room for Dr. Alexander's work, which is written with painstaking attention to details, both as regards diagnosis and pathology. The chapter on treatment is also written in a practical spirit, and serves to terminate the discussion in a satisfactory manner.

Outlines of the History of Medicine and the Medical Profession. By Joh. Hermann Baas, M.D. Translated, and in Conjunction with the Author, Revised and Enlarged, by H. E. Henderson, M.A., M.D. New York: J. H. Vail & Co. 1889.

This work contains a vast amount of information, more or less reliable, on a very interesting subject, and one, moreover, which is too much neglected by medical men of the present day; for a knowledge of the errors of the past might have prevented some at least of the absurd blunders which have from time to time been committed by modern medical practitioners, and which are doubtless to be committed in the future. The book is divided into two sections, the first being devoted to a consideration of the medical culture of those nations whose development in medicine is either already closed or is stationary, and the second being taken up with the history of more modern medicine. The second section is the more interesting, since in it we are able to trace the progress of the art of healing from the times of the ancient Greeks and Romans down to the actual present. The author is evidently thoroughly familiar with his subject, and it is therefore all the more to be regretted that he must be set down as an unreliable historian. He allows his hostility to Christianity to warp, or rather to form, his opinions to such an extent that his trustworthiness as an impartial historian is very seriously to be questioned. The facts reported may be as stated, but the conclusions drawn from them are so evidently pre-formed that they raise (we might almost say justify) a fear that the facts may have been moulded to fit them. The translator has corrected some inaccuracies in the author's text, and also disclaims any sympathy with Dr. Baas' silly rage against everything relating to religion; but we are sorry that he has not devoted himself to the introduction to English readers of a better book.

Electricity, and the Methods of its Employment in Removing Superfluous Hair and other Facial Blemishes. By Plym. S. Hayes, A.M., M.D., etc. Pp. 128. Chicago: W. T. Keener. 1889.

The title of this little book sufficiently explains its object. For those in search of practical instructions on how to remove facial blemishes it will render good service.

A Text-book of Practical Medicine, Designed for the Use of Students and Practitioners of Medicine. By Alfred L. Loomis, M.D., LL.D., Professor of Pathology and Practical Medicine in the Medical Department of the University of the City of New York; Visiting Physician to Bellevue Hospital, etc. Eighth Edition, Revised and Enlarged. With two hundred and fifteen Illustrations. New York: William Wood & Co. 1889.

The popularity of this work is shown by the appearance of the eighth edition within five years of the first, and that it is a well-deserved popularity no one who has carefully examined the book will gainsay. The arrangement is similar to that of other treatises of the kind, and as would be expected in a work which attempts to cover the whole ground of medical practice in about 1,100 octavo pages, the treatment of each subject is somewhat condensed. This is, however, far from being a fault in the busy age in which we live. There is an absence of the "padding" which abounds so plentifully in many special treatises, and each article is as short as its importance permits, so that no time is lost in getting at the pith of the matter. In addition to an introduction in which the subjects of inflammation, hypertrophy and atrophy, degenerations, tuberculosis, and bacteriology are treated of, there are six sections, dealing respectively with diseases of the respiratory organs, of the digestive system, of the heart, blood-vessels, and kidneys, and of the nervous system, and with chronic general diseases. The illustrations are excellent and helpful. A good chromo-lithographic plate, showing several forms of pathogenic bacteria, is a valuable addition. We know of no better book of its kind for the student, or for the general practitioner who may have been unable to keep up with the rapid advance of modern medical science.

The Physician Himself and Things that Concern his Reputation and Success. By D. W. Cothell, M.D. Ninth edition, revised and enlarged. Pp. 298. Philadelphia and London: F. A. Davis. 1889.

It is given to few writers of advice to their professional brethren to meet with such a reception as that which has been accorded Dr. Cothell. The "candid friend" may be both honest and useful, but it cannot be said that his popularity keeps pace with his fidelity; indeed, it must be confessed that in most of his manifestations he is but too apt to be regarded as a nuisance, as his candor interferes altogether too much with that complacency of the soul which arises from blissful obliviousness to one's own faults. As Captain Marryatt puts it: "A man may damn his own eyes, but has no right to exercise a similar prerogative over other people's visual organs." Dr. Cothell, however, infuses so much of downright good-nature into his homely philosophy that one is rather amused than otherwise in discovering one's own psychological blemishes between the lines of his excellent discourse.

A book of this sort, with all its wealth of shrewd observations boiled down to concrete rule must do good. The practice of medicine makes a thousand petty demands—the more the pity—upon the patience and tact of the average practitioner. To be made aware in advance of possible pitfalls is to confer a distinct benefit, especially upon those members of the profession whose intellectual endowments fit them rather for the scientific and ideal walks of professional life than for those little policies which pertain to its commercial side. "The Physician Himself" should be on the book-shelves of every doctor's office.

Manuel Pratique de la Garde Malade et de l'Infirmière. Published by Dr. Bourneville, with the assistance of the following collaborators: Messrs. Blondeau, De Boyer, Ed. Brissaud, Budin, H. Duret, P. Keravol, G. Maunoury, Monod, Poirier, Ch. H. Petit-Vendol, Pinon, P. Regnord, Sevestre, Gollier, and P. Yvon. Fourth edition. Paris: Bureau du Progrès Médical. 1889.

After drawing attention to the fact that training-schools for nurses have existed for a number of years in the United States, England, and Switzerland, Dr. Bourneville alludes to the efforts which he made with a view to establishing similar institutions in France. At length these endeavors were crowned with success, and schools of this class were opened at the Salpêtrière and Bicêtre.

Thus far everything had gone well. Soon, however, it was found that there was an entire dearth of that simple literature so necessary to those who are bent upon the mastery of the more general principles of medical science.

It is to meet this want that Dr. Bourneville conceived the idea of publishing a series of manuals dealing more especially with those medical topics a knowledge of which is essential to the nurse who aspires to fulfil the highest possibilities of her calling.

The first volume of this little library treats of the more important points of anatomy and physiology; the second gives an account of the administration of several of the great hospitals of Paris—notably of the Hôtel Dieu and La Pitié; the third presents practical directions for the transportation of the injured, the treatment of wounds, and the application of bandages and splints; while the fourth and fifth books are devoted to the consideration of such themes as child-birth, the care of the new-born child, management of the insane, and administration of remedies. The entire series is well conceived, and we congratulate the hospital authorities of France on the possession of such a practical guide to the various duties involved in the scientific care of the sick.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Stated Meeting, December 9, 1889.

ROBERT ABEE, M.D., CHAIRMAN.

Rare Form of Shoulder Dislocation.—DR. CHARLES A. POWERS presented a young man with a rare form of shoulder dislocation, with the following history: The injury was sustained three years ago, the right arm, the patient states, being drawn into a wringer which he was operating in a public institution; at the same time the shoulder and whole side were forcibly drawn against the machine. He complained to the surgeon of the institution, who ordered him to return to work. The accident was followed by some deformity, and considerable pain and swelling at the shoulder-joint. Three months afterward the surgeon placed him under ether, and, the patient says, returned the arm to its place, but that it slipped out again, and his condition has since remained as it is to-night. The right humerus is the seat of anterior dislocation, the head of the bone lying in front of the glenoid cavity. When the elbow is raised the head of the bone can be made to undergo an excursion upward and inward above the coracoid process, and can be made to rise completely above the clavicle. When the arm is drawn down, and the elbow approximated to the side and drawn a little forward, the head of the bone can be pressed very nearly into the glenoid cavity. The functions and sensation of the arm remain nearly perfect. Abduction takes place when the scapula is fixed proximately to forty or fifty degrees. As one palpates the head of the humerus he feels that it is smaller than its fellow. As he grasps it with the fingers he can pass entirely around it. Internal rotation is practically complete; external rotation, however, is short, the greater and the lesser tuberosities can be plainly felt, and beneath the head, on the inner surface of the shaft, at about the site of the upper part of the surgical neck, there is a very distinct bony ridge. It would seem that he has had at all times since the accident an anterior dislocation of the humerus, that the rent in the capsular ligament is very large, the head of the bone can be slipped back through it fairly well, and it is a question whether there has been a fracture through the head or the neck of the bone. Two or three surgeons who have seen him, do not quite agree on this point. It is not thought desirable to operate.

Accidents in Internal Urethrotomy.—DR. GEORGE E. BREWER read a paper on "Accidents, Complications, and Results following Internal Urethrotomy upon 120 Cases of Stricture." As introductory to his paper he outlined the history of one of his earlier cases, which presented an unusual number of alarming complications, and afforded a most satisfactory example of the successful result of treatment. A man, aged forty, unmarried, called in December, 1886, suffering from an acute specific urethritis. He stated that he had not been free from a urethral discharge for seven years, that he had been treated by dilatation on several occasions by distinguished surgeons in England and America. The duration of his present acute attack was four days. Dr. Brewer treated him by hot retrojections some forty days, with but moderate success. After the acuteness of the attack had subsided, an examination revealed the presence of three dense fibrous bands of stricture in the anterior urethra, reducing the calibre at these points from 32 to 24 F. They were divided, the patient being under the influence of ether. The incision was made upon the floor of the urethra, and was immediately followed by alarming hemorrhage, which necessitated for its control the introduction of a full sized sound and the employment of external pressure during more than an hour. Retention of urine followed, relieved six hours after the operation by silver catheter. Shortly after catheterization the patient had a severe chill, followed by high fever. Next morning, as a result of trying to pass his water, extensive urinary infiltration took place into the subcutaneous cellular tissue of the penis. To these complications was added on the second day an unusually acute urethritis. By the faithful employment of measures mentioned later, the patient made a complete though tardy recovery, the only additional inconvenience being the presence of an annoying curvature of the penis on erection, which persisted about ten weeks. Three months from the date of the operation the patient was entirely well, without the slightest trace of a discharge. During the year he contracted acute specific urethritis twice, and was cured on each occasion, within eight days, by retrojections of hot water. Two years from the date of the operation he was still well, calibre of urethra throughout being 32.

Subsequent experience led him to believe that, had the operation been deferred for a longer period after the acute attack, had the incision been made upon the roof of the canal, and had no instrument been passed through the deep urethra, all, or nearly all, the complications could have been avoided.

The one hundred and twenty cases operated upon by him during the past four years included all kinds, good and bad, and were included in the tabulated list. The operation in each instance was undertaken for the relief of certain symptoms which were thought to be directly or indirectly traceable to the stricture. In all but three a distinct history of gonorrhœa was obtained. In one of the other three there had been excessive masturbation, in one lithæmia was present. In but three instances was the normal calibre of the urethra found to be below 30 mm. in circumference, and these occurred in individuals exhibiting also arrested development in other portions of the body. The average size had been about 33 F. The number of strictures in each case varied from one to seven. In all but one instance they were confined to the anterior urethra, or that portion between the meatus and the bulbo-membranous junction. The exception was in a patient who had a dense fibrous stricture in the membranous portion of the urethra, together with several bands anteriorly, which necessitated the combined operation of external and internal urethrotomy.

In all cases in which the stricture was at, or within three-fourths of an inch of the orifice, the operation consisted in an incision made with a straight, blunt-pointed bistoury on the floor of the canal; when the stricture was more deeply situated than this, dilating urethrotomy by means of the Otis dilating urethrotome was practised, the cut being made on the roof of the urethra. There was but one exception to this rule, already referred to. Cocaine was employed for anæsthesia in 116 cases, ether in four, in which there was great nervous irritability.

Regarding the after-treatment, it was found that the passage daily of a full-sized sound to the bulbo-membranous junction, during the first four or five days, was by far the most comfortable for the patient, as the pain attending its passage was always more marked and the hemorrhage more severe after the cut surfaces had been allowed to glue together for two or more days. A sound was usually passed also on the seventh, fourteenth, and twenty-first days after the operation. In cases where an acute urethritis followed the operation, or where the urethra was for any other reason abnormally sensitive, the daily passage of the sound seemed often to increase the severity of the symptoms, and in these cases the intervals were increased to three or four days. Cocaine was rarely employed during the passage of sounds in the after-treatment. Where dilating urethrotomy had been practised the patients were kept in bed until the danger from hemorrhage had passed—from three to five days.

If recontraction of the stricture was to take place, it was usually possible to detect a tendency to this within fourteen days of the operation. When this was found

further use of the sound was abandoned, both on account of the severe pain caused by forcing a full-sized sound through an imperfectly divided and recontracting stricture, and also on account of the utter uselessness of attempting to prevent recontraction by means of dilatation. After the cut from the first operation had healed, a second, deeper incision was made, with a view to completely severing the cicatricial band, upon which seemed to depend the only possibility of a radical cure.

If after three weeks the urethra had healed and there was no evidence of recontraction of the strictures, the use of the sound was discontinued, unless the presence of granular patches, an irritable deep urethra, or other similar conditions called for its employment. The use of sounds for an indefinite period after an operation, with a view to keeping the stricture open he regarded as wholly unnecessary. If a strictnre was to be cured by urethrotomy it must be by thorough division, which did away with the necessity for prolonged after-treatment by dilatation. Among the symptoms complained of by the patients, which were supposed to be caused directly or indirectly by the strictures, were, gleet, 92 cases; frequency of micturition, 11; disturbance of sexnal function, 13; spasm of the cut-off muscle, 6; chronic prostatitis, 6; neuralgia, 4, which was located chiefly in the genito-crural nerve, and in one in the sciatic; chronic prostatic discharge, 3; dribbling of urine, 1.

Among the unfavorable complications likely to occur as a result of this operation he first mentioned severe hemorrhage. This took place in 6 of his cases, in 3 primary, in 3 secondary. In its treatment it was rarely necessary to use other measures than rest and gentle pressure on the orifice. Epididymitis occurred in 2 cases, and followed the passage of a sound through the deep urethra. An acute urethritis followed the operation in 10 cases, in 7 of which the operation had been undertaken shortly after an acute attack of gonorrhœa, some of the gonococci probably remaining. A slight ecchymosis took place in the skin of the penis in the vicinity of the cut in 4 cases, and in 3 of these there was subsequent curvature of the penis on erection. Of the remaining 116 cases curvature was present in only 2. Where ecchymosis took place the incision must have been unnecessarily deep, extending through the urethra. Slight inflammatory thickening of the tissues at this point, or the presence of an organized blood-clot, might account for the curvatnre. It was treated by inunctions of oleate of mercury, with massage, and by the galvanic current. Massage made on a full-sized sound with inunction was most useful. Six months to a year was likely to be required before complete cure resulted.

Of 30 cases re-examined after from two months to three years, in 21 the urethral calibre remained normal. Of the 93 who had gleet, 51 were relieved, 11 unrelieved, 28 result not known.

In his conclusions the author expressed the view that the treatment of stricture of the anterior urethra by urethrotomy was a safe procedure; that by the intelligent application of a few well-known measures, alarming hemorrhage could in nearly all cases be avoided; that, with the exception of the meatus, the practice of dividing anterior strictures on the floor of the urethra should be condemned as a dangerous procedure; that the passage of instruments through the deep urethra should, if possible, be avoided immediately after the operation; that in a majority of cases, by complete division of all the stricture bands a radical cure could be expected; that all attempts to prevent recontraction in imperfectly divided strictures by means of dilatation were useless.

The Chairman referred to the infrequency of extravasation of urine in urethral stricture, compared with fifteen years ago, and to neuralgia, saying that he believed reflex neuralgia due to urethral stricture had not received the attention it should; he had, himself, seen two cases of this nature. He then called upon Dr. Otis to open the discussion.

To the Full Size of the Canal.—Dr. F. N. Otis expressed great satisfaction with the paper. The conclusions drawn were entirely warranted by his own experience, and the method of operating, he need hardly say, was such as he had advocated and successfully practised for nearly twenty years. He believed others would find as Dr. Brewer had, that a studious experience would lead them to do the operation more thoroughly and with more careful attention to details than it was their custom to do in the beginning. In regard to the extent of the incision in dilating urethrotomy, he believed that it should rarely stop short of complete division of the strictnre band. There were cases in which the deposit of stricture tissue was so great that it would be impossible to cut through it entirely, but such cases were very rare. Certainly one was warranted in making the division up to the full size of the canal, as indicated by the proportionate relation existing between it and the circnmference of the penis.

Regarding curvature of the penis after the operation, he had seen it occasionally, but was not inclined, with Dr. Brewer, to attribute it to deep incisions. He had seen it where he was satisfied that the incision had not extended to the fascia surrounding the corpus spongiosnm. It usually lasted but a few days, and rarely more then a few weeks. Its removal was hastened by massage, through the method of Dr. Hartley referred to by Dr. Brewer. The curvature sometimes gave way with a sensation like a slight snap during coition, slight hemorrhage following. This seemed to point to adhesions of the mucous membrane to the underlying tissues as a cause. He thought that the paper of Dr. Brewer would prove an encouragement to those who sought to effect a radical cure of stricture, as opposed to palliative measures through long-continued dilatation. He had not been able to find, in any work by an accepted authority, a single case recorded where stricture was even claimed to have been cured by gradual dilatation. For continued relief by this plan the use of sounds was necessary for the lifetime of the patient. Persons suffering from stricture should be relieved from this bondage and from the grave perils inseparable from it. This was shown to be possible only through complete division of stricture.

Dr. F. B. Sturgis congratulated the anthor upon the success which had attended urethrotomy in his hands. With regard to the safety of the operation, he believed it was always attended by a certain amount of danger, greater or less according to the instruments used. Dr. Otis's urethrotome was usually employed, and, with due respect to the inventor, he must say that incision with it combined with dilatation was dangerous, because the incision was liable to be too deep, especially when it was made on the floor of the urethra. Moreover, there was danger of hemorrhage, not only into the corpus spongiosum, as stated by Dr. Brewer, but into the whole urethra. The upper incision with the Otis instrument was the only one which should be made. He agreed with Dr. Otis, that the curvature was not always due to the depth of the incision, although it might be sometimes. The curvature would nearly always disappear, although he had seen one case in which it had lasted two years. Regarding hemorrhage, he had seen more than one case in which it forced its way back into the bladder, and was even alarming.

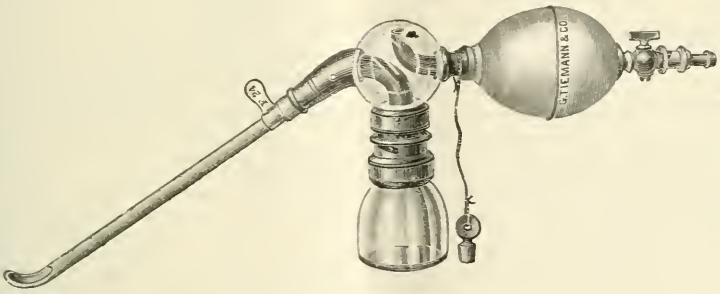
Dangerous in Acute Attack of Urethritis.—He agreed with Dr. Brewer that it was dangerous to operate during an acute attack of urethritis. When kidney disease existed internal urethrotomy should not be performed. He did not pass a sound until the third or fourth day after the operation, and in his experience hemorrhage was no more likely to occur than if it were passed the day following the operation, as practised by Dr. Brewer; urethral fever he thought was less likely to occur. He did not believe the full benefit of the sound was obtained unless the instrument was passed nearly the full length of the urethra, nor did this practice render urethral fever or cystitis more liable. Regarding recontraction, he agreed with the author, that it was due to in-

complete division; also that the operation was not curative, but only one step in the direction of cure. The real disease lay behind the stricture, and required further treatment. He continued to pass the sound oftener than Dr. Brewer, but he thought as he did, that if recontraction was to take place it would manifest itself usually the first month. He had known cases operated upon by Dr. Bumstead in which there had been no recontraction within ten years.

He did not believe that every stricture needed cutting. Some cases would get well by dilatation. The sound was counter-irritant and produced absorption of the stricture-tissue.

He did not know why rapid dilatation should have gone out of vogue. That it did split the mucous membrane at the site of the stricture had been shown at post-mortem in one of his cases, in which kidney trouble carried the patient off. He was inclined to perform rapid dilatation in preference to internal urethrotomy even in the pendulous portion of the urethra, regarding it as safer, and the subsequent results in his hands had been good.

In some Cases Complete Division Impossible.— Dr. A. G. Gerster wished, before commencing to speak on the merits of the paper, to say that when he came to this country, fifteen years ago, he was opposed to the treatment of stricture as taught by Dr. Otis, but it was not long before he became a complete convert to that method in preference to dilatation, practised in Germany. He was glad, however, to hear the admission from Dr. Otis that there were some cases of stricture in which complete division was impossible. Any amount of massage and dilatation of some cases of hard, callous, fibrous strictures, extending deeply into the peri-urethral structure, sometimes even involving the skin, would not effect a cure, nor would any form of internal urethrotomy. Where the stricture was not so deep, complete division of the stricture bands was possible and necessary. Why should not absorption of the newly-formed stricture material, which had not yet become hard and fibrous, take place after division and massage, as in newly-formed tissue at the seat of bone fracture? He believed with Dr. Sturgis, that where in a new stricture the tissue had not undergone fibrillary change a cure might be effected by dilatation and massage. In practice, however, he preferred to operate, as the most rapid method of effecting a cure. Besides, he considered internal urethrotomy a safe operation under proper precautions. He had seen dangerous hemorrhage but once, in which instance he attempted to divide a stricture extending through the corpus spongiosum. The patient, however, recovered. He thought it best to wait five, six, or even seven days in some instances, before passing the sound. He had never seen epididymitis after passing a sound. He attributed exemption from this accident to first washing the urethra; he also washed it out before and after urethrotomy. Nor did any of his patients any more have chills or fever. Dr. Gerster then presented a urethrotome which he had devised, and used with satisfaction. It had the special advantage of being readily rendered thoroughly clean.



The Finished Litholapaxy Evacuator.

Safe Operation.—Dr. L. Bolton Bangs wished to say that he regarded internal urethrotomy as a perfectly safe operation when performed with the Otis urethrotome. He was not willing to lay so much stress on the danger of too deep incision, nor was there any great liability to dangerous hemorrhage; he spoke of the importance of washing the urethra before the operation, which was also the practice of Dr. Otis and Dr. Brewer. The operation was done by some gentlemen in their offices and at their clinics, the patients being sent away to their homes. This was not safe, and he predicted that such a practice would be likely some time to result disastrously, much to the regret of the operator. He had recently seen in consultation a gentleman operated upon by a man of experience, the operation being followed by extravasation, septicæmia, and death. Probably some simple but important precautions had been overlooked. As to the best time for the first passage of the sound after the operation, he would say in general twenty-four hours. The after-treatment was important; the urethra should be rendered aseptic before and after the passage of the sound, and in some cases after urination.

Dr. Eugene Fuller thought it well, when one first saw a case, to pass a sound several times; if the stricture re-contracted it was then time to cut, and cut thoroughly, dividing all stricture bands. He passed a sound the day after the operation. It need not be passed again for two or three days. It should not enter the deep urethra.

Dr. G. E. Hopkins thought there were many cases, especially moderate strictures in old men, in which divulsion was preferable to internal urethrotomy.

Dilatation First.—Dr. J. D. Bryant said he practised both division and dilatation. He did not believe that in every case of stricture which one saw division was proper. He always first employed dilatation, but if it failed to cure the gleet or relieve the symptoms, or if the patient wished division, he used the cutting instrument. Regarding the danger of incision, he had been amused in listening to the remarks of those who claimed that it was a perfectly safe operation, especially those who devoted so much time to dividing strictures. While they claimed that it was a safe operation they did not end their remarks without cautioning those who might employ it of the dangers which might arise. In his experience he had had severe hemorrhage twice. In one the division was on the floor of the urethra, was made carefully, and, in fact, not sufficiently deep rather than too deep, as subsequently it had to be operated upon again. In the other it was on the roof of the penis. He believed in internal urethrotomy, but he did not believe in the indiscriminate use of it.

Drs. Alexander, Sturgis and Otis made some further remarks, when the discussion was closed by the author. Dr. Otis added that pressure, to control hemorrhage, should not be made at the meatus, but as near the seat of division as possible. Dr. Brewer had found the relationship between the circumference of the penis and of the urethra, given by Dr. Otis, to hold good; for practical purposes the urethra was larger rather than smaller than the estimated size.

Dr. George G. Hopkins, of Brooklyn, presented "A Curette for the Male Bladder." The curette passed through a hollow shaft, and its projection and angle of curvature, as well as the direction of the curvature, whether forward, backward, or laterally, were controlled by a screw at the proximal end. It had been of specia service in a case of papilloma at the trigone, which inter-

fered with urination, which case had suggested its construction.

Dr. F. N. Otis then presented and demonstrated the working of "The Finished Litholapaxy Evacuator," it being the same instrument which he presented as the perfected litholapaxy evacuator at the meeting of the American Association of Genito-Urinary Surgeons, two years ago, with the improvement now, in the fittings, of substituting a screw for cement connection between the bulb and the receiver. This rendered the instrument durable, easily taken apart and put together, much more easily cleansed, and further, it possessed advantages over the Thompson and Bigelow instruments in the direction of lightness, convenience of working, certainty of retention of fragments, etc.

SECTION IN OBSTETRICS AND GYNECOLOGY.

Stated Meeting, December 26, 1889.

J. E. Janvrin, M.D., Chairman.

Hysterorrhaphy: a New Method.—Dr. A. P. Dudley related the history of a case in which he repaired a lacerated cervix and perinæum, and sought to overcome retroflexion by mechanical means, but in the latter effort he was unsuccessful, and was finally led to do laparotomy. Certain important objections, however, led him to hesitate to do hysterorrhaphy in any of the ways in which it had been performed, especially by uniting the fundus with the abdominal walls. In two cases of his own the latter method had resulted in an intractable fistula in the line of the silk ligatures employed, finally necessitating a second laparotomy.

On opening the abdomen he broke up the adhesions about the tubes and ovaries, found the tubes pervious, and, after tapping a cyst in each ovary the size of a thimble, determined to leave them. The uterus was soft, flabby, the round ligaments unusually long, perhaps eight inches. He shortened these in a way to retain the uterus just a little anterior to the perpendicular by first dissecting the peritoneum from the anterior face of the uterus down to within three-quarters of an inch of the anterior ligament, then freshened the proximal ends of the round ligaments, deflected them down upon the anterior wall of the uterus as far as the peritoneum had been dissected off, and fastened them by catgut sutures, about fifteen in number, inserted less than a quarter of an inch apart. The sutures were not continued high enough to interfere with the tubal connections. In their new position the insertion of the round ligaments was about the junction of the lower with the middle third of the uterus. The patient was now convalescent, the uterus was still in the position placed during the operation, no pessary had been worn; the after-result would be reported in the future.

He believed the advantages of this method to be the building up and strengthening of the anterior surface of the straightened uterus, and the fact that the organ, not being fastened to the abdominal walls as in one form of hysterorrhaphy, remained free in the pelvic cavity as in the normal state. As far as he knew, the operation was original.

Dr. A. F. Currier thought there would be likelihood of the adhesions tearing loose, especially in pregnancy. Besides, the operation substituted an abnormal for the natural position. He thought Dr. Wylie's operation of shortening the round ligaments within the abdomen more in accord with nature. By it the ligaments could be shortened any amount, while under Dr. Dudley's method the shortening had to be limited to the distance between the fundus and vesical cul de-sac. Dr. Wylie's operation was simpler.

Dr. E. H. Grandin thought the operation novel, but he believed the ligaments would stretch as they had done under Alexander's operation, the method by which the fundus was fastened to the abdominal walls, etc.

Dr. G. M. Edebohls regarded the operation as a modification of Alexander's, as all operations were which shortened the round ligament, but here it was internal, not external. The past year he had done hysterorrhaphy five times, so far with good results. The details of the operation were important. He passed three sutures through the entire thickness of the abdominal walls, down into the uterus, about an eighth of an inch, out again about an inch from the point of entrance into this organ, then out through the entire thickness of the abdominal walls, the sutures being about a quarter of an inch apart. They were taken out about the tenth day.

Dr. Buckmaster believed such operations were rarely called for, but when required it seemed to him this one had no advantage over Dr. Wylie's method. It left, however, no stiff band to favor intestinal obstruction.

The Chairman thought retroflexion might take place above the point where the round ligaments were finally attached in Dr. Dudley's operation.

Dr. Dudley did not think retroflexion was likely to take place above, for the thickening from exudation and attachment of the ligaments had rendered the uterus stronger. He also replied to some of the other criticisms.

Extra-uterine Pregnancy and Electricity.—Dr. A. Brothers read a paper, entitled "Subsequent Behavior of Cases of Extra-uterine Pregnancy treated by Electricity." In the *American Journal of Obstetrics*, of last year, the author reported a case of extra-uterine pregnancy successfully treated by electricity, and prepared a *résumé* of forty-three cases which he had been able to find in the various medical journals. Since then he had found ten more cases, which he briefly reported. 1. Case of Dr. W. H. Taylor, three months' fœtus, six applications of galvanism; tumor diminished in size. 2. Dr. H. F. Walker, two months' (?) tubal pregnancy, five applications of faradism; cured. 3. Dr. Kalabin, tubal pregnancy of two months, one electro-puncture and thirty-one vaginal electrizations; tumor disappeared. 4. Dr. Kletsch, fœtus eight weeks old, three faradic applications; cured. 5. Dr. A. H. Buckmaster, seen by Dr. Skene, four months' growth, six applications of galvanism; mass reduced in size. 6. Matthews Duncan and Stevenson, faradism first applied to five months' fœtus, then galvano-puncture; woman died a few days later. 7. Boulton and Stevenson, two months' tubal pregnancy, treated by electro-puncture; woman died. 8. Benton, fœtus of eight weeks, ten to fourteen applications of faradism; diminution in size of tumor. 9. Bierwith, four to six weeks' growth, complicating typhoid fever, eight faradic applications; reduced to small nodule after a month. 10. Edebohls, eight weeks' growth, six applications of the interrupted current; complete absorption within six months.

The immediate effects of using electricity in the vast majority of the reported cases had been an abatement of symptoms due to the growth, and a marked diminution in its size. In three cases the fœtus was probably expelled into the uterine cavity. In four, alarming symptoms supervened, but passed away. In two, suppuration with discharge of the fœtus occurred, but the patients made a good recovery. Death occurred in five cases, but only one death could be properly attributed to the use of the electricity. In this case hemorrhage occurred from the sac-wall (Janvrin's case). In the other four cases electro-puncture was the method employed in two; in the third, simple puncture of the cyst after electricity had been discarded was responsible for the fatal result; in the fourth the fœtus was finally killed by morphine injections, and later the abdominal cavity was opened (Wylie).

In order to more accurately determine the subsequent behavior of cases reported cured under the electrical treatment, the author opened correspondence with the gentlemen who had used this method themselves, or knew cases in which it had been used. He requested an answer to the following questions: 1. What secondary dangers has your patient undergone as a result of the treatment?

2. What is the present degree of health of your patient, or when last seen?

Of the fifty cases of extra-uterine pregnancy treated by electricity contained in his tabulated list, he had not traced the further progress of the last eleven, most of which were reported during the last year, for the reason that he was interested in the subsequent histories of those cases which had been treated at least several years previously. He would state, however, that three ended fatally—two after electro-puncture; and in the third morphine followed by laparotomy was resorted to. The other eight were reported cured at the time. The cases treated by electro-puncture, the two fatal cases of Hicks and Janvrin, the three cases in which under electricity the fœtus was expelled through the natural passages, and the two cases in which it was discharged through openings in the vaginal roof, were omitted. This left six cases (reported cured) whose subsequent histories he was unable to trace. The following list showed the behavior of twenty-five cases observed for periods ranging between one and eight years after the employment of electricity:

Case.	Last seen.	Health.	Secondary dangers.	Local condition.
Allen	3 years later.	Good.	None	Tumor left, size fist.
Landis	4 " "	"	Recurrence of extra-uterine pregnancy 4 years later.	Reported cured.
Reeve	1 year later.	"	None	Small tumor left.
Harrison *	1 " "	"	"	" " "
Lusk	2 years later.	"	"	" " "
Billington	8 " "	"	"	Not stated.
Emmet	5 " "	"	"	Small tumor left.
Garrigues	8 " "	"	"	Nothing left.
Herrick	7 " "	"	"	Not stated.
Westcott	7 " "	"	"	Nothing left.
Sims	5 " "	"	"	Not stated.
Cushier	5 " "	"	Recurrence of extra-uterine pregnancy 3 years later.	Nothing left.
Cocks	2 " "	Fair.	None	Slight thickening left.
Lambert	2 " "	Good.	Symptoms of abscess for a time.	Nothing left.
Mundé	2 " "	"	None	Small tumor left.
Berlin	4 " "	"	"	Not stated.
Briggs	4 " "	"	"	" "
Stoddard	3 " "	"	"	Nothing left.
Goelet	2 " "	"	"	" "
Aveling	3 " "	"	"	" "
Gardiner	3 " "	Fair.	"	Not stated.
Mann *	1 year later.	Good.	"	Nothing left.
Brothers	3 years later.	"	"	" "

* Two cases.

Thus it could be positively stated that twenty-five patients (reported cured) had been heard from after the lapse of from one to eight years, and that, when last seen, all were reported well. Many of them still carried traces of the old trouble, and while it would not be fair to assert that these little masses could not in the course of time become troublesome, still the fact remained that, as far as he had been able to discover, they had up to the present caused no inconvenience. Whether electricity was to hold its place in the treatment of extra-uterine pregnancy or not would depend on the stand taken by the American profession, for in Europe it had hardly received the barest recognition. From a careful study of the facts presented in the paper, the author drew the following conclusions in regard to the use of electricity in extra-uterine pregnancy:

1. The risk of rupturing the sac of an extra-uterine pregnancy and causing death by internal hemorrhage is slight. In but one case has this possibly occurred (Janvrin), but the reporter himself thought that the danger existed prior to the employment of electricity.

2. Suppuration of the dead fœtal mass has not occurred in any case in which electricity was employed before the third month.

3. Beyond the third or, possibly, fourth month electricity should not be resorted to.

4. Electro-puncture is to be condemned in all cases.

5. In cases of mistaken diagnosis no harm is done by the electrical treatment.

6. Under galvanism or faradism early extra-uterine pregnancies can be checked in their growth, and caused to disappear entirely or to become shrivelled up. These remaining masses have, thus far, caused no subsequent trouble.

Dr. Edebohls had had two cases of extra-uterine pregnancy treated by electricity. In one he was not able to follow the result after the fourth week, when the symptoms had subsided and the patient considered herself well. The diagnosis in the other case was beyond peradventure, and had been confirmed by Dr. Thomas and Dr. Gillette. It had been reported in Dr. Brothers' paper; no tumor nor symptoms now remained. In the future he would have no hesitation as to what to do in cases of extra-uterine pregnancy which had not advanced beyond the tenth week. He would use electricity.

Electricity Versus Laparotomy.—Dr. Grandin agreed most emphatically with the conclusions drawn by the author. He considered the paper as one of the most valuable which had appeared for a long while. We were now passing through a stage when the question was being widely agitated, Should we do laparotomy in cases in which extra-uterine pregnancy was suspected? The advocates of primary laparotomy contended that electricity would not kill the ovum; that if it should, the woman would for her future life be subjected to every imaginable risk. In this paper we had for the first time a careful collation of facts regarding the results of electricity. These twenty-five cases furnished a more brilliant record than that of primary laparotomy. He need only refer to the cases in this city in which laparotomy had been performed for extra-uterine pregnancy, with the result of two miscarriages, one death, and another bad result the nature of which he could not then recall. We ought, then, to be proud of what had with scorn been termed "the American treatment of extra-uterine pregnancy." Up to the third month he had always contended, and had put his belief into practice in two instances, that electricity would kill the ovum, and that the dead ovum ought not to give rise to trouble. What was the ovum at the third month? A little thing about the size of a hen's egg, the contained embryo about two-thirds of an inch in length, bone not present. He had seen the tube contain as much pus in cases of pyosalpinx without having ruptured. Every intelligent man must grant that this ovum could be killed by electricity; why could it not be absorbed, or pass out through the uterus? He had not the slightest doubt that it could. He believed that many of those who favored primary laparotomy did so for the reason that their work lay more in that direction than in the other. He need only refer to a meeting recently held in a neighboring city (Philadelphia) at which electricity was condemned and primary laparotomy upheld. And on what ground? Chiefly that electricity could not kill the ovum; that it did not kill it; that the cases which had been reported as cases of extra-uterine pregnancy treated by electricity were cases of erroneous diagnosis, and that therefore primary laparotomy should be resorted to and the woman's safety be not trusted to electricity: it seemed beyond belief that anyone could question the diagnosis in all these cases. They were seen by expert diagnosticians, there were all the symptoms of extra-uterine pregnancy, they were treated by electricity, those symptoms disappeared, the tumor shrank or was absorbed entirely, the patients recovered. He concluded by saying that, if the ovum had not passed the third month, and the cyst had not ruptured, he would use electricity.

Dr. A. F. Currier did not yet feel absolutely positive that we must all use electricity in these cases. The results given in the paper spoke very favorably for that method, yet there was some question regarding diagnosis, and, necessarily, must be; it was not impossible that some trouble might yet arise from the remains of the tumor, where present. While his own experience had been limited to only one case, and in that one the laparotomy resulted in death, yet, if he felt sufficiently positive of the diagnosis, he would not hesitate in the future to recommend treatment by laparotomy.

No Question of Diagnosis.—Dr. Macmaster thought there could be no question of the diagnosis in most of

these cases. But one of two conclusions could follow, namely, that they were cured by the application of electricity, or that extra-uterine pregnancy was a harmless matter. He believed it was much less dangerous than was commonly supposed, in many instances, yet he thought the evidence of these histories showed that the ovum was frequently destroyed by electricity. He did not believe we were justified in doing laparotomy before the third month.

Dr. Malcolm McLean said one of his cases appeared in Dr. Brothers' list. In another case, not mentioned in the paper, the ovum was killed by galvanism, and now, at the end of fourteen months, no tumor remained. He would ask the gentlemen who doubted the diagnosis in these cases whether there was an authenticated instance in which electricity before the fourth month had failed, the subsequent course of the case showing it to have been one of extra-uterine pregnancy? He had never heard of one. It had not been shown that the treatment had failed in any instance when properly applied. It was not claimed to be applicable at the fifth, sixth, and seventh months, and cases treated at that time by electricity should be excluded. He was not prepared, however, to say that it should not be used to kill the fœtus after the third month, and, as soon as an attempt at absorption showed itself, do laparotomy to remove the remains.

Primary Laparotomy.—The Chairman explained the position which he had taken the past four or five years with regard to primary laparotomy. His views were founded on experience in one case in which galvanism was employed after symptoms of rupture of some of the small vessels on the surface of the sac, the fœtus being nine weeks old. The day after the fourth application the patient died, suddenly, of rupture of the sac. While he did not attribute the rupture to the use of electricity, yet he then took the ground, which he still held, that where rupture of the sac was imminent, as indicated by sudden, severe colicky pains, etc., electricity should not be employed, but laparotomy should be done at once. Where rupture was not imminent he would not oppose electricity, and had used it himself. Here galvanism should certainly be preferred to laparotomy, by those inexperienced with laparotomy. He did not question the diagnosis in most of the reported cases. Dr. Mann had reported two, not in his own practice, in which extra-uterine pregnancy treated by electricity had been followed by abscess and serious trouble, the patients, however, finally recovering without an operation.

Dr. Brothers closed the discussion. He said Dr. Mann had not mentioned those two cases in his letter to him, but that might be accounted for by their not being cases in his own practice.

Correspondence.

THE THIEF WITH THE BOGUS CHECK.

To the Editor of the Medical Record.

Sir: If you deem that the publication of the following facts in your next issue will be in time to serve as a warning you may use them as you see fit.

Last Friday, January 17th, at 11 A.M., a man about five feet four inches in height, thin face, forty years of age, somewhat bald, wearing a blue overcoat, called at my office in my absence with an alleged check for $35 on the Commercial Bank, and professed a desire to pay a bill of $20 for his brother, a Mr. Purdy, and to obtain $15 in change. As my wife had been victimized by a similar dodge, to the amount of $5, a few years ago, she began to look for the name given in my ledger. During the search the man hastily left. One of my domestics prepared herself and went in the direction he had taken, and met him coming down the stoop of a neighboring physician, when he took to his heels and rapidly disappeared.

As the present is a time when physicians and their families are pleased to collect bills, and, as I believe, most of them stand in need of whatever they do collect, I am moved to state the above, hoping that, if there be any whom this individual has not as yet favored with a call, they may be timely warned against his seductive methods.

Respectfully,

N. S. Roberts, M.D.

New York.

BROMINE IN THE TREATMENT OF DIPHTHERIA.

To the Editor of the Medical Record.

Sir: In the Medical Record, January 18, 1890, p. 64, under "Treatment for Diphtheria," Dr. H. L. Manchester, of Pawlet, Vt., writes of bromine in the treatment of diphtheria. He says he "has never seen any reference to the use of bromine as a disinfectant in the treatment of diphtheria." I would say Dr. Manchester would, by referring back to 1878–79, in the local papers and articles written by Vermont doctors, find that Dr. Middleton Goldsmith, of Rutland, wrote of bromine to be used in the same way as Dr. Manchester speaks of, "in a shallow dish on a high shelf," or by saturating a sponge or cloths and suspending them in the room, he basing his views on the action of bromine on hospital gangrene—a subject which Dr. Goldsmith wrote an essay on, based on his experience in the army, I believe. I treated at least two hundred cases in the towns of Winhall and Jamaica, Vt., in the winter of 1878 and spring of 1879, and I found, in consultation, that other doctors were using it as a disinfectant. If my memory serves me rightly, Dr. S. S. Clemmens, of Manchester, was the first one to call my attention to Dr. Goldsmith's views. I had previously sent to Dr. Chamberlin, Secretary of the Connecticut State Board of Health, for some pamphlets issued by said Board, and, by mistake (as claimed later on), bromochloralum was advised; but after reading Dr. Goldsmith's article, I ever afterward used bromine; and at a meeting of the Patrons of Husbandry, or the Grange, I read an article on prevention of diphtheria, giving the views of different authors, and closed by advising them to get bromine and use according to the published article of Dr. Goldsmith, which the local papers had published. I write this simply to give the credit of prior use by Dr. Goldsmith (and myself, at least), and to assure Dr. Manchester that in 1878–79 I verified its use in practice.

A. D. Ayer, M.D.

Madison, Conn., January 21, 1890.

REFLEX NEUROSIS—A REPLY TO DR. J. H. WOODWARD.

To the Editor of the Medical Record.

Sir: I regret that I was unable to state my view of the relation between peripheral irritation and nervous phenomena with sufficient clearness to be understood by Dr. Woodward. Lest others of your readers may be in the same state of perplexity, will you kindly allow me to restate my position. It is this: Peripheral irritation sometimes—in my experience rarely—produces nervous symptoms. These nervous symptoms taken together constitute a class of affection which is called a reflex neurosis, of which class there are spasmodic, convulsive, painful, and other varieties. Each of these varieties of reflex neurosis resembles, in some particulars, a certain nervous disease, but can be distinguished from that disease when carefully examined. To be more specific, a reflex convulsive neurosis may resemble epilepsy; but true epilepsy develops in a person of neurotic constitution, with a bad heredity, frequently after a sudden mental shock, in the form of a convulsive seizure of some kind, which seizure repeats itself after an interval of several months, and again after a shorter time, until finally the attacks may reach the frequency of one in a month, or even in two weeks, being usually attended by complete loss of consciousness during the seizure and by entire subsequent

lack of knowledge of what has occurred. In a reflex convulsive neurosis the family history of epilepsy is often wanting, the seizures recur with great frequency from the outset, from two or three daily (as in the convulsions of teething) to sixty daily (as in the case related), being not usually attended by a complete loss of consciousness, since even during the attack the attention of the patient may be aroused. I cannot make a more concise statement regarding the differences between true chorea and a reflex spasmodic neurosis than that already quoted by Dr. Woodward. Looking at the seizure alone, or at the spasm alone, I do not think it safe, in the majority of cases, to make a diagnosis. Looking at all the facts obtained by eliciting a complete history, and then by making a thorough examination, I think a differential diagnosis is usually perfectly possible. There are always some cases, however, in which it must be preceded by an observation of the patient for a short period of time. Whether during that time the treatment prescribed hastily on a careless diagnosis will be better than that pursued tentatively on the most probable hypothesis I leave Dr. Woodward to judge. As I have never seen any permanent harm come from the medicinal use of arsenic in chorea, and am in this position supported by the statement of Dr. Seguin, whose wider experience adds much to its force, I should not hesitate to use it as an aid to diagnosis if necessary. It would certainly be more harmless than cutting the ocular muscles as an experiment to detect a "latent" "phoria." I hope that these statements are sufficiently clear.

Permit me, in closing, to say that the object of my paper was less to draw sharp diagnostic lines than to show that peripheral irritation is not a frequent nor an adequate cause of nervous disease, and that it is never a cause of true chorea or epilepsy. Yours, very truly,

M. Allen Starr, M.D.

January 21, 1890.

THE ALLEGED CHLOROFORM MURDER—REPORT OF AUTOPSY ON MRS. KNIFFIN.

To the Editor of the Medical Record.

Sir: Our city has been greatly excited over the murder of a Mrs. Myra Kniffin by the use of chloroform. I thought it might be of interest to the readers of the Medical Record to have a report of the post-mortem examination. If it is of any value it is at your disposal:

Autopsy: January 4, 1890, 3 P.M. Examination made by Drs. Leavitt and Struble, assisted by myself.

Body that of a female, thirty-three years of age; eyes hazel; eyelids closed; hair light brown; pupils slightly dilated; *rigor mortis* well marked; lips of a pinkish color, the lower one shows the impress of the incisor teeth; her appearance is not that of death but of healthy sleep, so rarely seen under such circumstances; around the mouth is a circle of excoriation as if some irritant had been applied; on the chin of the right side are four finger scratches, with the cuticle torn upward and outward; this can well be seen on three, on the fourth it is torn away; they are so closely clustered together that the hand inflicting them must have been small. There are no other marks of violence, some discoloration due to suggillation found on the back.

On opening the cranium the membranes of the brain are found healthy; no congestion, the blood being of a brighter hue than usual; the blood unusually fluid; there is the normal amount of serous fluid, the brain and appendages are normal.

On opening the chest there are found firm pleuritic adhesion of both lungs to the chest-walls, those on the left side most marked; the apex of the right lung shows commencing tubercular degeneration. Lungs are moderately congested, marked hypostatic congestion in the lower part of both, back. Heart small; right ventricle dilated and flabby, left normal; fatty infiltration; valves are normal—fit well; heart empty; no clots or blood in either ventricle.

The trachea shows marked signs of irritation, extending from the vocal cords downward; a beautiful pink punctation is seen in patches, most marked when the membrane is slightly loose and raised. Considerable frothy mucus at lower part, and of a slight pinkish color in the bronchia; air-vesicles contain a slight amount of frothy mucus.

On opening abdomen: Liver congested; bladder empty; spleen normal; kidneys healthy; stomach taken out and sent to an expert for examination of contents; no smell of any kind to be detected except that which is usual in such examinations.

The conclusions to be arrived at are that death must have come on suddenly, and a short time after forced inhalation, and that there was a paralysis of the heart; the absence of blood in the right side may be accounted for in the unusual fluidity of the blood, which permitted its escape while removing the lungs and heart from the chest, although the greatest care was taken to avoid this accident.

One of the questions asked on the inquest was whether a person could be chloroformed while sleeping, as seems to be the fact with this person. I think the cases cited in the different works on this subject do not have any bearing upon those of this kind. Where the experiment has been tried it has always been done by experts in the line of safety, with chloroform diluted with air; but when a criminal goes to work the conditions are altered, he is indifferent as to results, he uses the liquid in full concentration and forces its inhalation; the struggle must be brief, if any, as death is certain under such circumstances to all animal life if continued for any length of time. In regard to the scratches found upon the chin, I am inclined to think they were done by the murderer, as he must have held the soaked cloth over the mouth, and on the victim moving her head accidentally inflicted them. That they were self-inflicted I doubt, as to pull the cuticle upward and outward would require an awkward and unnatural movement of the person's own arm and hand.

H. Waldburg Coleman, M.D.

No. 111 South Warren Street, Trenton, N. J.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 19 to January 25, 1890.

Loring, Leonard Y., Major and Surgeon. By direction of the President, the Army Retiring Board appointed by War Department order, dated January 8, 1890, from Headquarters of the Army, to meet at Los Angeles, Cal., will meet for his examination at San Diego, Cal. S. O. 18, A. G. O., January 22, 1890.

Spencer, William G., Captain and Assistant Surgeon, Fort Bridger, Wyo., is hereby granted leave of absence for one month. Par. 1, S. O. 4, Department of the Platte, January 20, 1890.

Black, Charles S., Captain and Assistant Surgeon. By direction of the Secretary of War, the extension of leave of absence granted him in S. O. 1, January 1, 1890, Department of the Platte, is further extended to include April 30, 1890.

Black, Charles S., Captain and Assistant Surgeon. His resignation has been accepted by the President, to take effect April 30, 1890. Par. 1, S. O. 18, A. G. O., January 22, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending January 25, 1890.

Berryhill, T. A., Assistant Surgeon. Ordered to examination preliminary to promotion.

Wentworth, A. R., Assistant Surgeon. Ordered to examination preliminary to promotion.

Medical Items.

Contagious Diseases.—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 25, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	17	5
Scarlet fever	57	10
Cerebro-spinal meningitis	2	1
Measles	63	3
Diphtheria	92	21
Small-pox	0	0
Varicella	4	0
Cholera	0	0

The Late Dr. Lewis H. Sayre.—At a meeting of the New York Pathological Society, held January 22, 1890, the following minute was adopted: "The New York Pathological Society has heard with sorrow of the death of one of its most efficient members, Dr. Lewis Hall Sayre, which occurred during the night of January 2, 1890. Dr. Sayre was the son of one of the honored founders of this Society, and was himself an active and valued member, having been a frequent attendant at its meetings and having served faithfully during the year just passed on one of the most important committees. While respected by all for his scientific attainments, he could count among the members of the Society not a few warm personal friends whom his many excellent qualities of mind and heart had drawn around him. Lewis Hall Sayre was a skilful and a conscientious surgeon, a cultured and a kindly gentleman. The members of the Pathological Society, while extending to the bereaved father and to the family of their departed associate their most heartfelt sympathy, desire also to spread upon the minutes of the Society an expression of their own sorrow at the loss which they have sustained. (Signed) J. West Roosevelt, Thomas L. Stedman, Committee."

Explosion in a Dentist's Office.—A patient was suffering quietly in a dentist's chair, one mild January afternoon, in Canton, O., when he was suddenly expelled, the operator and several of his household effects accompanying him. After quiet had been restored it was found that a vulcanizer had exploded with great force, tearing a large hole in the wall and making a wreck of the dentist's office.

Pathogenesis of the Microbes Contained in Malignant Tumors.—Dr. Verneuil has directed attention to the fact that the tissues, which are the seat of malignant neoplasms (cancers, sarcomas, epitheliomas, etc.), may, at a given moment, be invaded by divers microbes, the origin, species, and nature of which it has, so far, been impossible to determine (*The Provincial Medical Journal*). This invasion, the causes and mechanism of which are alike unknown, may remain latent for an indefinite period, but in certain cases, in the evolution and nutrition of the tumor, it may lead to several modifications, such as the rapid enlargement, the softening, or the ulceration of the part affected. Microbes are not to be found in all neoplasms, or even in all neoplasms of the same kind, nor yet in every portion of the neoplasm invaded. They are not to be found, for instance, in lipomas or in pure fibromas; they cannot be found in the early stages of sarcoma or cancer, in which the progress is slow and the growth is covered by healthy skin; on the other hand, they are nearly always to be found in softened and ulcerated tumors. These microbes, besides their irritant, phlogogenic and pyrogenic action, which they exercise locally even on the diseased tissue, possess other pathogenic properties, which may affect the whole system. Thus, so far as an opinion can be found, they may give rise to a more or less intense and irregular febrile condition, while they are pent up in a tumor about to grow rapidly or to soften. Moreover, during the removal of a tumor, they may impregnate the fluids contained in the softened parts, infect the operative wound, and so inoculate it as to develop septicæmia, which may lead even to death. The knowledge of this last fact pleads strongly in favor of the removal of malignant neoplasms, so desirable from every point of view, and suggests forcibly to surgeons the necessity of adopting preventive measures, both during and after operations, for the extirpation of tumors infected with microbes.

Is Phenacetin a Remedy in Whooping-cough?—Dr. R. Heimann, of Landau, answers the above question affirmatively, having used the drug experimentally in a case in which antipyrin entirely failed. The success was so surprising that he administered the drug in two other cases. It reduced the number of paroxysms, which had been from ten to fifteen per diem, to three, and on some days they entirely ceased, only reappearing at night, when no phenacetin was given. Dr. Heimann gave a boy of three years six grains in four doses of one grain and a half, a girl of two years five grains in three doses, and an infant of seven months three grains in four doses, without observing the slightest ill effects. One grain and a half of phenacetin would, on the average, retain its effect for three hours. The author recommends further trials of the drug.—*The Lancet.*

"Change of Climate is what you need," said the high-priced physician, after he had listened to all the details of the patient's case. "Change of climate!" exclaimed the patient, in surprise. "Why, man alive, I've never had anything else. I've lived right here in New England all my life."

An Exorbitant Fee.—A woman brought her daughter to a friend of mine practising in the "Pottery" district. The girl had dislocated her jaw, which dislocation was soon reduced by the usual method, and a bandage applied to keep it in position. On being asked the fee, my friend, not having had a similar case in private practice, went into another room and consulted a tariff of medical charges published by the Shropshire Ethical Society, and found "for reducing dislocation of jaw, one to three guineas." Seeing that the woman was not in good circumstances, he felt that the minimum fee was not likely to be forthcoming, so he tentatively asked whether the girl had ever had the jaw out before. "Oh, yes, sir," she replied, "about twelve months ago, and was treated by a doctor at ——." "How much did he charge you?" "A shilling, sir." "Didn't that strike you as being a somewhat peculiar fee?" "Well, sir," was the reply, "*we did think it a good deal.*"—*Birmingham Medical Review.*

Politics and Science in Canada.—In referring to the new Protestant Hospital for the Insane in Montreal, and the appointment of a medical superintendent, which has not been made as yet, the *Montreal Medical Journal* says that it is not the custom in that country to appoint men to these positions because from experience and special education they are fitted for the work. In most of the provinces the first, and, in fact, the only qualification, is the reputation of being an energetic machine politician. The credentials of the candidates do not consist of what they know and what they have seen of insanity, but what they have done for their "party." To be a rejected parliamentary candidate is a qualification which rarely fails in securing the desired position.

The Inconvenience of Sweat-bands in Hats.—Sweat-bands of hats may contain even twenty-eight per cent. of fatty acids, which in summer may penetrate into the forehead and cause inflammation, and corrode deeply into the skin. Rub with burnt magnesia every little while, so as to leave a small film on the band; wipe it off with a cloth before applying again.—*Journal of Cutaneous and Genito-urinary Diseases.*

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NEPHRO-LITHOTOMY—SOME CASES, WITH REFLECTIONS.[1]

BY E. L. KEYES, M.D.,

NEW YORK.

GENTLEMEN: This calculus which, consisting of seventeen fragments, I place before you, was in the kidney of a middle-aged gentleman about seven weeks ago. The gentleman is now well, as far as the operation is concerned, except for the remaining fistula, and possessed of both kidneys. The stone is mine, by right of discovery and possession. The history shall be yours presently. The stone is a single, large, branched, phosphatic calculus. Each of the seventeen segments shows a point of fracture where it was separated from the parent stem. The weight of the fragments is two ounces, and the case is a very interesting one, and so strikingly illustrative of the brilliant possibilities of the modern operation, nephro-lithotomy, that I have determined to make it a text, and, collecting my other cases in the same line, to give you such reflections as have occurred to me from my personal experience, in an operative way, with cases of stone in the kidney, actual or suspected, six in number. All of these recovered promptly from the operation, which—the operation—I have come to look upon as a much more simple matter than I formerly did; and it is in the hope of encouraging this same opinion in others that I offer you this short paper.

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I shall briefly report the cases as they occurred chronologically, with a running commentary upon each, summing up with a few conclusions. In one of the six cases (Case II.) an abscess without stone was discovered in the kidney. In another (Case IV.) no stone was found, after very thorough exploration.

CASE I.—In October, 1878, X——, who had been treated all summer by a medical gentleman for what was called ague, was found to have an enlarged right kidney, displaced downward. This I aspirated posteriorly. The pus disappeared from the urine, and the patient improved immensely; but very soon the symptoms and tumor reappeared. A second tapping, two weeks later, relieved less, and it shortly became evident that pus was now outside the capsule of the kidney. I therefore cut him in the loin by a vertical incision, and evacuated a large amount of pus. I opened the kidney, found it pretty well disorganized, and with the finger removed a few very small phosphatic concretions from the pelvis. The operation had been delayed too long. There were many complications, and recovery was protracted, so that it was not until several months later that the patient walked to my office. The fistula never healed entirely.

Remarks.—This case is a poor one in every sense. In the first place, it was not strictly a case of stone in the kidney and nephro-lithotomy, but rather of pyelo-nephritis with disorganized kidney, relieved by nephrotomy, the small phosphatic concretions being accidentally found, not operated for, when the incision was made. The quantity of pus was very considerable, the concretions quite small.

Yet little apology need be made in this case, since it occurred in 1878, and nephro-lithotomy was then not even a name. H. Morris's first successful case of deliberate nephro-lithotomy was performed in 1880.[1] Of course, stony matter had been removed from abscesses in and around the kidney before this date, and the possibility of removing stone from the kidney by operation had been mooted from time to time since the days of Hippocrates, and perhaps performed, as in the celebrated case of Hobson, alleged to have been cut by Marchetti, of Padua.[2] On this case of Marchetti's, upon which Morris throws doubts, and six others in which the operation of nephro-lithotomy had been planned but failed, Morris[3] comments, in claiming originality for his first case, in 1880.

Annandale,[4] long before this, had dilated a fistula leading into the pelvis of the kidney, and successfully removed a stone of seventy-two grains.

George W. Callender,[5] in 1873, operated upon a woman successfully in St. Bartholomew's Hospital, cutting through the capsule of the kidney into an abscess, and removing a stone with the pus.

Peterson[6] published a case of "pyo-nephrosis calculosa," April 5, 1880, before Morris's papers appeared; the patient, a female, aged thirty-nine, having been successfully operated upon. The method was puncture, aspiration, laminaria tents, lithotrite, forceps; yet all these cases, like mine, are those in which the operative undertaking was really a nephrotomy, and although the pus was within the capsule of the kidney, and although this capsule was opened, yet the stone was an accidental discovery, and the surgeon's motive for operation was to evacuate pus.

In 1869 Thomas Smith had read a paper before the Medico-Chirurgical Society of London, suggesting a method of removing stone from the kidney, and in 1878 Thornton tried it, but found only pus; so that the credit of

[1] Read at Albany at the meeting of the Medical Society of the States of New York, February 5, 1890.

[1] Clinical Society of London, Medical Times and Gazette, November 6, 1880.

[2] Philosophical Transactions Abridged, 4th ed., vol. iii., Obs. xcv., p. 188. 1731.

[3] Lancet, October 30, 1880, p. 698.

[4] Edinburgh Medical Journal, 1869, xv., pp. 21–29.

[5] Hospital Reports, 1873, p. 211.

[6] Berlin. klin. Wochenschrift, April 9, 1880.

formally diagnosing kidney calculus beforehand, making a plan for its removal, and carrying out that plan successfully, belongs certainly to Henry Morris—the year being 1880. Since that time, in the past ten years, what splendid advances have been made! My successful case, therefore, of nephro-lithotomy, in 1878, does not count, because perhaps a pint of pus was evacuated, and only a few grains of accidental stone, the existence of which was not suspected when the operation was undertaken. In my second case—which was one of formal nephrotomy, the kidney being movable, its capsule not adherent, and all the pus being within the kidney—it is also hardly fair to speak of nephro-lithotomy, because here, too, the pus (and there was more than a pint of it) was the substance sought for, and although there was a possibility of stone, none was found.

Case II. is a gentleman, aged forty-one, with all the evidences of tubercular pyelo-nephrosis, a globular movable kidney in his flank, no peri-nephritic adhesion or inflammation. This was all the case. I cut down upon the kidney by vertical incision, in the presence of Dr. Van Buren, September 25, 1880, clearly exposed the kidney, and opened its capsule into a large abscess with the Paquelin red hot knife. No stone was found in the abscess. Prompt recovery followed, and the patient lived several years with a small fistula in his side. The other kidney and both testes were tubercular.

Case III., I may call my first of deliberate nephro-lithotomy; yet this is also an imperfect case, strictly speaking, for the patient was an oldish man (sixty-two years of age) with already a small fistula in his back, left after an operation for an alleged diseased rib. I cut down upon and into this kidney, and removed in fragments about a drachm of uric-acid stone. This was in the year 1887. Prompt recovery from the operation followed, the urinary symptoms improved, but the original fistula persisted and another proposed, more extensive, operation for its relief was denied.

Case IV.—My next case is very curious in this, that the patient—then aged fifty-one—had been formerly sent to me from a neighboring State, with hæmaturia, to be treated for kidney disease, since the doctor had examined his bladder and found nothing. I discovered a small stone in the bladder, removed it at once by litholapaxy, and sent the patient home on the fourth day, well as to his hæmaturia, but with a diagnosis of a remaining calculous pyelo-nephritis.

Some years later, in February, 1888, this gentleman was sent back to me again with hæmaturia of nine months' standing, and a statement to him by his physicians at home that they had this time touched stone in the bladder. I explored the bladder, but found nothing. Then, after some study, I believed that I could locate the seat of the hemorrhage in the left kidney, on account of subjective pain, pain on pressure, previous kidney colic on that side, and pain radiating down that groin into the bladder and testicle, as well as by the certain test of washing the bladder. I therefore, in February, 1888, made an exploratory nephro-lithotomy upon this gentleman. The incision was transverse, just below the rib. The kidney was exposed, stripped of its fatty capsule entirely, so that with the thumb and finger I could pinch laterally the entire kidney from top to bottom, feeling for a stone. I could feel the ureter and the great vessels easily, and count the arterial throb. The kidney was rather small and moderately granular upon the surface. I could detect no soft spot (as of abscess), and no hard lump produced by stone. I pinched the pelvis and felt nothing within; I next, systematically from top to bottom, pierced every portion of the kidney, over each space of about three-fourths of an inch, with a long, sharp acupressure needle. I did not strike stone. I therefore disinfected, drained, and closed the wound. Reaction was moderate. Union by first intention occurred throughout. The patient sat up on the ninth day, went downstairs on the tenth, and home, several hundred miles by rail, on the eleventh, cured as to his pain and hæmaturia; the latter, which had lasted nine months, ceasing a few days after the operation.

This patient's condition remained satisfactory until he died suddenly, whether by the heart or by apoplexy, I could not learn, about a year after the operation.

Remarks.—This gentleman was thin and tall, with plenty of lumbar space, so that the transverse incision was ample to allow manipulation of the kidney. Judging from my experience in removing the kidney by the posterior incision, I may state that in fat, short individuals, a liberating vertical incision downward, along the outer border of the quadratus, would be very desirable, perhaps essential, for the execution of thorough exploration and manipulation of the kidney in search of stone. My belief is, that in this case there was no stone in the kidney, but that the organ was in granular degeneration (the urine always contained casts), and the movements of the kidney caused by the motion of the body in walking about, kept up a sufficient congestion to yield a constant flow of blood. Separating the kidney from its attachments in the operation allowed sufficient inflammatory cohesion in the process of repair to fix it more firmly in place, give it rest, and thus cure the hæmaturia. Certain it is that the pains ceased and the blood no longer appeared in the urine after the wound cicatrized. The ease of the operation and the promptness of recovery are features worthy of note.

Case V.—X——, aged thirty-eight, with a history of intense paroxysmal attacks of left kidney colic on several occasions, without the passage of stone, was referred to me in July, 1889. I found deep, fibrous stricture and considerable cystitis, with great frequency of urination of a purulent fluid. No stone in the bladder. He was very fat. The kidney could not be felt. All the subjective pain was at the end of the penis, and over the symphysis, at which latter point also pressure produced pain.

As the deep urethra was quite narrow, and as he improved considerably in his vesical symptoms under moderate dilatation, I concluded that perineal cystotomy was appropriate, since the stricture proved tough and resilient, both to cure the latter and drain the bladder. This operation was accordingly performed July 31st, by my assistant, Dr. E. Fuller. Prompt recovery from the operation followed, and great improvement in all symptoms, but the idea of trouble in the left kidney was never abandoned because, although casts were absent and the pus diminished, yet some kidney cells were found and the amount of albumin present was disproportionate to the quantity of pus. Yet the patient continued to improve, had no pain in the left side, got up and about, and was doing reasonably well, when suddenly, without obvious cause, at the end of August he was taken down with acute orchitis in the left testicle. This went on to suppuration, and a considerable slough of the substance of the testicle came away from the abscess after it had been incised. After this, improvement again set in and continued for a time; but shortly, more fever and more vesical irritability manifested themselves, and finally a sharp chill, followed by another, and high fever with great prostration, came on, and then intense pain in the left kidney region, and at last a gush of pus, which, however, afforded no relief to the symptoms. The patient's condition was rapidly becoming desperate; the urethra and testicle were well, but it was clear that matters were going badly, and that further surgery was called for. I therefore determined to cut for stone in the kidney.

The usual transverse incision easily found the kidney, high up and deeply covered by its fatty envelope. I exposed the capsule and handled the kidney freely. I detected a softish spot, and introducing a fine exploring aspirating needle, drew out some badly formed urinous pus, and with the needle touched stone. I enlarged the incision, introduced the finger, and found a stone as large as a good sized marble. This I removed with forceps,

drained the cavity after further exploration had failed to detect other calculi, and closed the external wound except for two large rubber drainage-tubes. Recovery was prompt and uneventful. The wound healed entirely, with great rapidity, and the patient has since enjoyed excellent health, his urine being almost clear, and his health and functions satisfactory.

Remarks.—This case is remarkable for its complication of disorders, the obscure symptoms yielded by the stone proper—which indeed never became pronounced until the final suppuration occurred around it—and for the very moderate shock of the final operation, and the brilliant recovery that followed it.

Case VI.—X——, a vigorous gentleman, aged thirty-nine, came to me from a neighboring State for consultation and advice relative to a great frequency of urination, of several months' duration, and the passage of urine which resembled pure pus. It was as thick as gruel, acid in reaction, of high specific gravity. The total quantity passed in the twenty-four hours was ample, and the amount of urea satisfactory. He had formerly had a small stone removed from his bladder by perineal lithotomy, and recently had had severe kidney colic for the first time, and some pain in the left kidney region. I had no difficulty in mapping out a large, tender left kidney, and in view of the amount of pus lost and the rapidly increasing intensity of his symptoms, I urged immediate operation. This he declined, since he desired to return home and arrange his affairs before submitting to the knife. He went home with all his symptoms constantly aggravating, and shortly wrote me that his pains were worse, his fever higher, and finally, that he was passing not only an abundance of pus by the urethra, but also from time to time considerable gas. He returned to New York in December, 1889, in high fever, passing pus and intestinal gas by the urethra. I obtained his permission to open his kidney and remove any stone I discovered, but he would not consent to have his kidney taken out—an operation which I thought might be advisable in consideration of the manifest fact that there had been extra-renal suppuration, and that a communication must exist between (I believed) the transverse colon and the abscess above the kidney.

The operation was a very formidable one. A transverse incision just below the last rib easily opened the way to a hard mass of fibrous, inflammatory deposit, which surrounded the kidney and held it fast. Through this dense, crackling mass of inflammatory deposit I cut for nearly three-fourths of an inch before I came to the true capsule of the kidney. There was no fat whatsoever encountered in this incision. When I reached the kidney it was as firm and hard as stone. There was no suppuration. The true capsule of the kidney was unbroken, but through it I could feel the hard, uneven masses of stone. I incised the capsule freely, and with the finger, supporting the kidney with the other hand placed outside of the abdomen, I gradually worked my way along the sides of the stone, tearing the kidney substance away on either side. The hemorrhage was very great. I soon became convinced that the stone was a large branched one, and concluded that it must be broken up if possible and removed in sections, if I was to get it out at all without taking the kidney with it. The stone proved to be phosphatic, and not being larger at any place than the finger, I was enabled to break it, partly with forceps and partly with the finger, and to remove it piece by piece. In this way I ploughed up the whole of the posterior surface of the kidney, and followed the branches into the calices and the substance of the kidney in all directions. When I had gotten it about all out below, a work requiring no little patience and strength, I attacked the remaining branch at the top of the kidney. In loosening this section I at last broke into an abscess-cavity outside of the top of the kidney. From this escaped thick, bloody, badly smelling pus and a quantity of gas.

After satisfying myself that no stone was left, I irrigated freely and deeply with water, too hot to be borne by the hand, and succeeded in arresting the free hemorrhage, and cleansing the purulent cavity, apparently. This water was so hot that it almost cooked the tissues, causing the edges of the cut muscles at the outer part of the wound to look much like under-done boiled mutton. Four large drainage-tubes were inserted. One passed through the kidney and out into the abscess-cavity above, one terminated in the cavity of the pelvis of the kidney below, and the two others were placed for superficial drainage along those portions of the wound that were to be sutured. At least two and a half inches of the incision about the deep drainage-tubes were left unsutured, and packed lightly with iodoform gauze, as I expected an escape of some of the intestinal contents at this point. Shock was excessive. The temperature ran moderately high, and the pulse was feeble and very rapid for a couple of days. No more gas escaped from the bladder, but it came from the wound freely on the second day. There was also an escape of what appeared to be fecal matter from the wound on several occasions, and similar material once from the bladder.

It is needless to give close details of the recovery that followed, which was practically uninterrupted. At the end of the third week the patient sat up and walked about, and before the end of the fourth week he made an uninterrupted journey on the railway of several hundred miles to his home, the large fistula being of course still open, but the greater part of the wound solidly closed, his urination being normal, and the urine itself generally clear and sparkling, with a trifling deposit of cloudy mucus and trace of pus. The stone weighed two ounces, and is the one I have shown you at the beginning of my remarks.

I have not had an opportunity to look up the literature of the subject, to see how large a stone has been removed successfully from a kidney, but I do not remember to have read of any of these dimensions, and I feel certain that, all things considered, the gravity of this case was very real, and the success a brilliant vindication of the efficacy of nephro-lithotomy. The drainage of the abscess-cavity above the kidney was good, and long continued, and the small perforation which I believe existed between it and the transverse colon must have closed spontaneously.

In a letter received from the patient last week, I learn that the large hole I left for drainage in the back is closing too rapidly, and that now some pus is beginning to show again in the urine. It is quite possible that, if the drainage cannot be maintained effectively in the back, a secondary operation may be advisable to remove the stump of the kidney, but this in no way lessens the positive advantage the patient has derived from his first operation.

Nephro-lithotomy as an operation of the first order is, to-day, an established surgical fact, and needs no words of mine in its justification. The obscurity which often surrounds diagnosis of kidney stone, the fact that fruitless search has often been made for it through a surgical opening, and the possibility of having symptoms in one kidney when the stone is in the other, together with the idea in the minds of some that the operation itself is a formidable one, have often led to hesitation in resorting to the knife; a hesitation which, I think, will gradually disappear as our experience becomes broader. For what better justification of the exploratory incision can there be than the fact (illustrated by my fourth case, and very often at the hands of other operators) that, even when it is negative in its results, as far as finding stone is concerned, yet a cessation of the symptoms, for the relief of which it was undertaken, very frequently follows its employment. Then again, as to the seriousness of the operation viewed simply in a surgical light, I think it is generally over-estimated. I have explored in all, in this particular line, six times, and every case, some of them quite serious ones, has done perfectly well and made prompt recovery, as far as the operation itself was concerned.

I do not know the verdict of pure statistics upon this point. If they have been collected, I have not seen

them. My record is perhaps too good to generalize from, and the same may be said of Knowsley Thornton's [1] published statistics of his personal operations, which were thirteen in number, with one death, from suppression.

Thornton, however, does not believe in the simple posterior incision. His field is abdominal, and his preference, for exploratory purposes and to clinch diagnosis, the anterior incision, Langenbuch's, and a combined operation which he has performed ten times.

He makes a serious point of the difficulties of diagnosis, which we all know to be considerable, and the details of which I have no space here to consider; but his method is (and his success justifies its exposition here) to open the peritoneum through Langenbuch's incision along the outer border of the rectus, explore both kidneys, verify in this way the existence of stone in one kidney and the integrity of the other organ; then, with one hand in the abdominal cavity protecting the colon, keeping the peritoneum out of the way, and firmly steadying the kidney, to cut down through the loin by a small incision directly upon the kidney, at the point where the stone is located, and cutting directly through the kidney substance at this point, to extract the stone with forceps through the posterior opening.

This, as may at once be seen, gets the stone out with the least possible amount of displacement of the kidney from its natural attachments, and extracts it through the smallest possible opening, which is entirely extra-peritoneal, and may be drained and treated antiseptically in the usual way.

Much may be said in favor of this operation for use by those entirely familiar with peritoneal surgery and antiseptic abdominal exploration. For those not at home in this region, an extra element of risk is inflicted upon the patient by opening the peritoneum, and I personally do not think that it is generally either necessary or justifiable; but I believe it to be an admirable resource in irregular cases and those of very uncertain diagnosis.

My conclusions, therefore, based upon what experience I have had, are the following:

Conclusions.—1. The posterior exploratory incision upon a kidney suspected to contain stone is devoid of any serious danger when performed with proper care, and should be resorted to more often than is at this date sanctioned by general surgical opinion.

2. The best incision is the transverse, below the twelfth rib, with as much of a liberating incision downward along the line of the edge of the quadratus as may be required to gain ample room.

3. The kidney may be freely cut into and rudely lacerated with the finger, when the stone calls for it, without producing any hemorrhage which hot irrigation will not control.

4. It is better, in the case of a large branching calculus, to break it up and extract it in fragments, rather than to attempt to remove it entire.

5. So little danger attaches to the posterior incision that it seems wiser always to make it the first step, reserving peritoneal exploration for a later resource in cases where the posterior exploration miscarries.

[1] Park Avenue, January 28, 1890.

A Family Dairy.—Dr. Cremer reports in the *Deutsche Medizinal Zeitung* the case of a woman, twenty-eight years old, who gave birth two years ago to a child, which died soon after. The breasts continued to secrete milk, however, so that even at the present day the woman has enough milk to nourish a child, and is obliged to keep the breasts constantly covered with cloths to prevent soaking her dress. The aunt of this woman had one child in early life, and from that time until her fiftieth year had an abundance of milk, and used to nurse her grandchildren whenever their mother was tired or disinclined to nurse them herself.

[1] Harveian Lecture (abstract). Lancet, November 30, 1889.

A DEVICE FOR FORCING RESPIRATION, WITH A REPORT OF ITS USE IN THREE CASES OF OPIUM NARCOSIS.

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Artificial respiration has been recommended and used for a great number of years in cases where respiration fails or has never been established (as in asphyxiated infants), owing to paralysis of the respiratory centre. This centre is not only affected by an increased amount of carbonic acid in the circulation, as occurs in asphyxia from various causes, but may also be paralyzed by certain drugs when taken into the system, notably opium in its different forms. Paralysis of the respiratory centre is the ultimate result of a surcharging of the blood with carbonic acid, as in drowning or inhaling various gases, or rapidly terminates in it, as in poisoning from drugs which paralyze the centre of respiration. In either case we have respiration failing, while the other bodily functions are partially active. The great, and in most cases only, necessity, if the case is seen in time, is air in the lungs of the patient. These cases need air only for the time being, and if this can be supplied properly a great many can be saved. Every physician has, no doubt, run across these patients many times during his practice. In many of them air should be supplied within two or three minutes, as in drowning; in some, retrograde changes are not so rapid, and it takes several hours for death to take place. It may not be out of place to mention some of the more common poisons in this connection which kill eventually from paralysis of respiration, most of them ending in asphyxia. Various gases, as carbonic oxide, nitrous oxide, marsh gas, natural and coal gases, in fact any gas, even oxygen itself, might be mentioned; vapors, as chloroform and ether; lastly, asphyxia from drowning and opium narcosis. If I pick up a book on poisons and their antidotes I see artificial respiration also recommended for a variety of poisons, such as aconite, belladonna, chloral, conium, hydrocyanic acid, and nux vomica. Quite an array of drugs, it is at once seen, affect respiration, if taken in poisonous doses. In general, we may assert of any of the above that the ultimate result of the poison is an accumulation of carbonic acid in the circulation greater than normal; there is no longer healthy blood. As a consequence there is a partial or total cessation of the secreting and excreting organs, and hence the poisons are retained. The functions of respiration, circulation, and secretion are interfered with, and if these are not soon rectified dissolution rapidly follows.

The methods of supplying this much-needed air have, all will admit, always been very imperfect. The older methods—those of Sylvester, Hall, Howard, and others—depend upon the resiliency and elasticity of the chest-walls, lungs, and diaphragm, they quickly springing back after being displaced. Various movements of the body and limbs are also used to secure the same end—respiration. The amount of air displaced in the lung at each of these movements is necessarily small, and the manipulation is tiresome to all parties taking part in it, as well as detrimental to the patient; but we must admit that, although it is imperfect, it has saved many lives, especially in cases where the effects of the poison are rapidly eliminated. An example of this would be a case of drowning.

There seems to be, up to the present time, a scarcity of means or devices for forcing air into the lungs, a procedure which would naturally suggest itself, particularly for cases which are protracted. The reason for this, I think, is that no one ever dreamed of the possibilities of this method. To Dr. George E. Fell, of Buffalo, belongs the credit of demonstrating to the world the fact that air can be forced into the lungs without any damage to them, and furthermore, as a potent therapeutic agent it excels any discovered for centuries. He has coined the phrase "forced respiration.' Others have at different times used devices for forcing air into the lungs, but they never brought re-

sults which are so overwhelming before the public. Who ever dreamed of saving a patient by forcing air into the lungs for over twenty hours? It reads like Baron Munchausen, but nevertheless it is a fact.

The cases upon which the doctor has had such surprising results were poisoned by that most potent yet dangerous drug, opium, from which many die annually throughout the country, it being given in overdoses by physicians and druggists, or taken with suicidal intent. The method of Dr. Fell consists in the performance of tracheotomy, inserting a tube into the wound, and connecting this with a bellows; a provision is made for air having been inhaled to be exhaled outside of the bellows, so that there is always a change of air. In this manner a respiration can be kept up for hours which much resembles normal breathing. From the use of his method Dr. Fell has reported some remarkable results. Anyone reading the report of his cases cannot help being convinced that those thus treated were saved, and by forced respiration alone. Furthermore, there is no doubt the method of forced respiration is the future treatment for many cases in which artificial respiration has been recommended. The scheme of making one breathe who needs air, and is in such a state that he cannot get it voluntarily, is a good one. We will make a broad statement by saying that all these cases die ultimately from asphyxia. This may be secondary to a paralysis of the respiratory centre, but it is, in the end, the cause of dissolution. The carbonic acid finally stops the heart, when life is at an end; but if we can institute a respiration closely resembling the normal before degenerative changes have taken place, would it be too great an assertion to say that ninety per cent. would recover? I think not. By forcing respiration we rapidly arterialize the blood, changing it from a dark ebony hue to scarlet, the secretions are started up and the poison eliminated; time alone is required. Anyone who will watch a case of opium narcosis treated with forced respiration will be surprised at the effects produced—how rapidly cyanosis vanishes, and how short a time it takes, comparatively speaking, to eliminate the poison and place the patient out of danger.

Believing that forced respiration is a valuable therapeutic agent, and that it has come to stay, and recognizing the imperfect means at our command to use it, I have for some time been perfecting a device which would be simple in construction, applicable to all cases, require no operation, and, above all, produce a respiration approaching as near as possible the natural. This I have at last completed, and have used it in three cases of opium narcosis, with the result of saving two lives without a doubt (Cases I. and II.). Case III. might have recovered. I report it to show the action of forced respiration in this class of cases.

The device, which I have named "The Automatic Forced Respirator," consists, without going into detail, of a heavy flexible rubber cup, fitting over mouth, nose, and chin, and retained either by hand or straps about the head; sometimes I secure it one way, at other times the other. In this cup is a brass tube which connects with a bellows by a rubber tube about five feet long. Inside the brass tube are two valves, which are so constructed that they automatically control the inhaled and exhaled air, one directing the inhaled air from the bellows into the lungs, the other giving exit to exhaled air to the outside through the walls of the cup. All the operator must do is to work the bellows at the rate he wishes respiration to be forced, the respirator does the rest. When this device is used we have air forced into the lungs, it is then expired as in natural respiration, as soon as pressure on the bellows is removed, from the resiliency of the chest-walls, lungs, and diaphragm, as in natural expiration. It resembles natural respiration in that expiration is a passive act.

The cup for adults fits any adult face (one is also made for children), and is rendered so nearly air-tight by a slight pressure that the lungs can be filled through it perfectly.

It has been argued that no form of bellows should be used, as the lung-tissue might be ruptured. I think this can be thrown out of medical literature forever. If air can be forced for twenty hours, or over, without causing any lung trouble whatever; if it can be used, as Dr. Fell has used it, with tracheotomy in addition, allowing more or less blood to get into the lungs, without any lung complications following, the danger cannot be very great. Lung-tissue is strong. I have repeatedly tried to rupture the lungs of a common fowl by placing a blowpipe in the trachea, with the chest laid open, giving the lungs no support. It has been impossible for me to do it. Consider the pressure the cornet-player uses to force a high note on that instrument without any damage to the lungs, and we see it is made of strong material. Again, a given pressure in the trachea is manifoldly decreased in the air-cells, owing to the expansion of the lung-tissue, and consequent distribution of pressure. The objection to the bellows, rightly used, is too trivial to be taken into consideration.

We increase the pressure of the air in the lungs at each inspiration; but this pressure is not great enough to rupture a lung, or even interfere materially with the pulmonary circulation. I have not as yet measured the pressure required to fill the lungs, but would say that it never would reach two atmospheres. We are told that more oxygen is absorbed and carbonic acid gas given off under slight pressures over one atmosphere; if this be the case, we have just this condition in forced respiration. We, no doubt, could do damage by forcing the lungs beyond their vital capacity, and keeping the pressure up, thereby crowding out the pulmonary circulation; but it is not to be supposed that the bellows, even in the most ignorant hands, would be used in this manner. The movement of the chest-wall is a guide to the amount of air which should be given; it should be a little greater than normal; respirations can be forced from fifteen to eighteen or twenty times per minute in the adult.

The bellows, as I have it constructed, is arranged so that it can be adjusted with a screw to force only a given amount of air; this adjustment is made by the physician in charge, and should depend upon the size of the lungs, and the consequent amount of air needed to produce a good inspiration; this is done so that any layman can perform the services of "pumping" as well as the physician.

Although this respirator is applicable, in all cases where artificial respiration is required, on account of its easy and prompt application, requiring no operation, and perfection in producing a respiration so near natural, I have as yet only had opportunities for using it in the three following cases of opium narcosis, in which it entirely exceeded my expectations, as well as the physicians present who saw it work.

As it is automatic one alone can use it.

It would be of especial use in drowning, because of its prompt application. Something of the kind should be owned by all vessels, bathing resorts, and life-saving crews. Many other locations might be mentioned where it might be of service, as in patrol-houses, mines, etc. One or more physicians in every city might profit by possessing one for emergency cases requiring forced respiration. One of small size would be of especial service in resuscitating asphyxiated new-born infants, thereby doing away with mouth-to-mouth inhalation, or artificial respiration in other forms.

Case I.—Mr. S——, white, aged thirty, took seven or eight grains morphine on the night of August 19, 1889, at 8 o'clock P.M., with suicidal intent. He had been drinking heavily, was naturally of a melancholy turn of mind, and had often threatened suicide, especially when under the influence of liquor. At this time, although he left letters to his relations, bidding them good by, with a brother with whom he was stopping temporarily, and had bidden the latter farewell, saying he was going to die, no especial attention was paid to him. His brother said he had fooled him so often that he took no notice of his threat. Later in the evening the brother discovered a large empty powder paper, one inch wide by three in

breadth, and a glass which had some white powder adhering to the sides. He immediately called on Dr. Dick, of East Spring Street, for an analysis. That gentleman promptly detected morphine and hastened to the scene. This was before half an hour had elapsed. The patient was walking around and firmly denied having taken the drug, saying he had thrown the contents of the glass out of the window. Dr. Dick here suggested apomorphia hypodermatically, but both brother and patient protested, the former having implicit confidence in what the latter said.

Both soon retired after the doctor had left, the brother going upstairs to bed, the patient lying down on a lounge downstairs with his clothes on. By the way, this all occurred in an undertaker's establishment.

Dr. Dick, thinking all was not right, called again at 11 o'clock, three hours after the drug had been taken. Admission was given him, when he soon found he had a bad case of morphine narcosis on hand. Patient could not be aroused in any manner. Respiration 1 or less per minute; pulse, 140; pupils contracted to pin-points; $\frac{1}{60}$ gr. sulph. atropia was given hypodermatically.

Dr. J. F. Baldwin was at once summoned, and after examining the patient thought that forced respiration was the only thing that would save him, and sent a messenger for me; $\frac{1}{20}$ gr. atrop. administered. I arrived at 1.30 A.M., August 20th. I found the physicians endeavoring to introduce a stomach siphon, which was made of very soft rubber. Attempts were abandoned shortly after my arrival.

1.30 A.M.—Pulse, 138 per minute and weak, deep cyanosis; respiration, 1 per minute, pupils partly dilated; skin moist, clammy. Automatic forced respirator applied and respirations forced at the rate of 12 to 15 per minute.

2.30 A.M.—Respirator removed. Patient made no visible effort at respiration for about three minutes; he began then to breathe at about the same rate of 1 per minute. No perceptible change the first hour. Respirator again applied, and respiration forced for about half an hour.

3 A.M.—No visible movement has been detected in the patient. Cyanosis markedly diminished; pulse, 140 per minute; skin growing warmer and very moist. Respirator again used until another half-hour had elapsed.

3.30 A.M.—Upon removing the respirator fully two minutes elapsed before there was a voluntary respiration; they then began with the Cheyne-Stokes variety, consisting of three or four spasmodic efforts, each increasing in force until the last, which filled the lungs full of air. At this time we saw the first improvement. Although the respirations were of the above-mentioned variety they had increased in frequency to one in three-quarters of a minute; surface of body was natural in color and warm; pulse about 140 per minute. Respirator again applied. In about half an hour various muscles began to twitch; he would make voluntary efforts to breathe, which, as the respirator is constructed, he could do with ease. Respirator again applied.

4.30. A.M.—A sudden jerking of the feet and hands; the latter endeavored to grasp the respirator cup; it was at once removed. Patient raised himself, stared wildly, asked for a drink, and when it was given him seemed to relish it. He immediately lay down and went into a state of stupor, from which he could be aroused by brisk shaking. Respiration, 13 per minute, deep and regular; pulse, 120. Patient was now, it was thought, getting enough air. He was watched to see that respiration did not decrease in frequency. On the contrary, however, they kept increasing in frequency. Dr. Dick remained with him until daylight, I going home. Saw him again in the morning. Was sleeping lightly when I arrived at 9 A.M. Pulse, 100; respiration 14 per minute; was considered out of danger. He made a good recovery. He, however, complained of a partial deafness in one ear for about ten days, which I attributed to the action of the air in the Eustachian tube, or to a possible rupture of the tympanum. I neglected to make any examination. At 4.30, when he returned to consciousness, and when forced respiration was discontinued, his bowels were considerably distended with air; no bad effects followed. In fact, most of the air had disappeared by 9 A.M. the next day. No lung trouble followed. It might be added that I had a probang and a sponge fastened to a silk fish-line, and was going to pass it part way down the œsophagus, and anchor it by passing it around the neck, but I was urged to try respiration without it and did so. At no time did the air in the bowels seem to impede the work, and the sponge was never introduced. However, in a case requiring many hours of assistance I do not think it would be a bad plan.

Case II.—Ethel J——, white, aged twenty months, took ten one-eighth grain morphine pills from a pill-box and swallowed them at 4.30 in the evening of August 26, 1889, making one and one-quarter grain of morphine taken. Physicians could not be procured at the time, and as a consequence no emesis was obtained. Dr. D. R. Kinsell arrived at 5.10 P.M., and found the child much inclined to sleep; he gave tartar emetic and ipecac without any effect; the child was tossed and walked about for a time, but finally went into a state of profound narcosis; $\frac{1}{60}$ grain atropia given. Dr. C. F. Turney arrived at 5.30 P.M., and found breathing 15 per minute, shallow, stertorous. Pulse could not be counted on account of rapidity.

6.15 P.M.—Skin cyanosed, breathing about 12 or 15 per minute, pulse not estimated.

I arrived at 8.15 P.M.—Respiration 10 per minute, stertorous, shallow; skin almost black, cold and clammy; pulse a mere flutter.

Respirator applied; the cup was so large that it covered the whole face, but could be held on air-tight. It was used for fifteen minutes, care being taken not to expand the lungs too much, as we had a large bellows to force with. Respirator was forced so that the natural respiration was strengthened and an extra artificial one was forced in between, so that our child was now getting double the amount of air. Dr. Kinsell had left in the meantime, fully convinced that the child would die, and had so expressed himself to the family. At the end of the first fifteen minutes there was no perceptible improvement.

9 P.M.—Respirator again applied for about fifteen minutes.

9.15 P.M.—Respirator removed. We now thought that the skin was growing brighter and warmer. Shortly after removing the respirator the respirations were up to 12 per minute, but they gradually sank back to 10. Friends here protested against further use of the respirator; they believed what Dr. Kinsell, the family physician, had told them, and did not want to see the child tortured any further. We finally, by persuasion, got them to let us proceed only for a short time, and if we saw no further improvement we would discontinue the respirations.

10 P.M.—Respirator has been used for some time; when removed, after a brief interval, the respirations are 18 per minute and strong. A bystander noticed a finger move, and we now had clear sailing; everyone was eager to see another movement, friends and acquaintances now crowded around until they became a burden, when we politely asked them to keep away, as the child needed pure air. Respirator applied occasionally for five or ten minutes at a time during the next hour; it seemed to stimulate natural respirations, as they would become more frequent and deep for a while after, then gradually sink back again, being less frequent and shallow.

11 P.M.—Decided improvement, body natural in color, respirations 28 per minute, muscular twitching very frequent and confined to toes, fingers, lips, and eyelids.

11.30 P.M.—Respirations continue strong at 25 per minute; pulse about 250 per minute; occasionally moves an arm, entirely unconscious, no effort at crying as yet.

12 M.—Respiration continues 25 per minute, child occasionally tries to cry.

12.30 A.M.—Child can be aroused, respirations about 28 per minute. A strange observation was here made, the temperature in the axilla registered 104¼° F. Child cries, but soon falls asleep again.

Dr. Turney remained over night with the child, and reports a continued improvement. Saw the child the next day, it had a temperature of 102° F. and was very nervous but still drowsy. Everything now pointed to an ultimate recovery, which rapidly ensued. No lung trouble whatever followed. When the respiration was discontinued the abdomen was very much distended with air, which condition was not visible the next day.

CASE III.—Mrs. M——, aged forty-two, a sufferer from acute attacks of neuralgia of the stomach, was given morph. sulph. ($\frac{1}{4}$ gr.) hypodermatically. After this was done it was found she had taken six one-quarter gr. pills, at intervals during the preceding four hours, without any effect.

The hypodermic was given at 1 P.M., September 24, 1889. She became drowsy and was in a deep stupor at 4 P.M., but could be aroused and would speak; pulse accelerated, pupils contracted, $\frac{1}{50}$ gr. atropia given by Dr. C. B. Ferrel, who was called in to see the case. She continued to sleep when the attendants would let her, occasionally getting a hypodermic of brandy, until twelve o'clock midnight, when respiration began to fail. Dr. Kinsell, being called into the case in the meantime, sent a messenger for me to come and use the automatic forced respirator. I arrived a few minutes after two o'clock A.M., September 25th.

Patient in a semi-unconscious state, can be aroused by vigorous shaking, will open eyes for a short time only, will not speak; pulse 120, very weak and fluctuating, respirations ten per minute, shallow and jerky, no especial cyanosis.

2.10 A.M.—Automatic forced respirator applied and worked perfectly, filling the lung at each movement of the bellows. The natural respirations were enforced, and an extra one placed in the intervals between, so that she was now practically breathing twenty times per minute.

3 A.M.—Respirator removed; one minute and a half elapsed before an attempt at voluntary respiration was made, then respiration began and continued for a short time at the rate of twelve per minute, but soon fell back to eight per minute. Respirator again applied.

3.30 A.M.—Respirator removed; in a short time patient began breathing at the rate of twelve per minute; pulse 120, strong; still in a semi-comatose state from which she could be aroused but would not speak, but would nod the head in response to questions; drank some brandy.

Fell asleep as soon as she was laid down.

3.40 A.M.—Respirator again applied and used through short intervals for the next hour.

4.30 A.M.—Patient awakens, grasps the respirator cup, rises up in bed much frightened, stares wildly, does not seem to recognize friends around her. There is now a change quite the reverse of that existing formerly. She seems frightened; when laid down she rises up, staring and gesticulating wildly. Persists in sitting up in bed, where she will occasionally nod, but soon wakes up much frightened; respirations now fifteen per minute, strong and deep.

Patient was watched for some time to see that the respirations did not decrease in frequency.

5.30 A.M.—Patient breathing fifteen times per minute, pulse 120. Still sits up in bed, occasionally nods but soon wakes up frightened; when laid down she soon rises up, looking wild and excited. She now talks, answering questions put to her. I left at this time, leaving instructions that if respirations diminished in frequency I should be called again. Dr. Ferrel reports that for some time after this she continued to be wild and excited, but her respiration did not slow up at any time. She made a good recovery, no lung trouble whatever followed. Bowels were not distended with air to any noticeable degree. It is hard to tell what would have been the end of the case had not respiration been forced, as it was failing when I arrived; it might have continued to fail and the patient died. The case was, however, seen in time, and this tendency averted.

In the first case respiration was actually forced three hours or a little less, in the second case over two hours, and in the third about two hours.

The respirator will soon be made by some Eastern instrument firm and placed upon the market.

105 EAST MAIN STREET.

ELECTRIC PROSTRATION.[1]

BY A. VAN HOFF GOSWEILER, A.M., M.D.,

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THIS is a peculiar disease in persons whose duties require constant working under electric light, the recent outbreak of which is said to have caused not a little uneasiness in certain manufacturing regions.

The disease, which is known as "electric prostration," results from exposure to the arc-light, and lays siege to the subject's throat, face, and eyes. Some very severe cases are reported from Creuzot, a town in France, a large number of men being kept at work in that town in a factory where metals are heated by an electric furnace, the strength of which is over one hundred thousand candle-power, and while this is not in itself sufficient to damage the men, the intense brilliancy of the light brings on the "electric prostration."

A communication has been made by a well-known oculist of Cronstadt, a city in Russia, concerning the bad influence of the electric light upon the eye. There have come under his observation, within the past year, thirty persons suffering from a disease of the eye. The symptoms are the same in each case, and all the patients had, perforce of their employment, been accustomed to remain for hours at a time near electric-lighting apparatus. The disease is also called photo-electric ophthalmia. The patient is apt to be awakened in the night by great pains around the orbits, accompanied with an outpouring of tears, intense photophobia, and smarting pain. The first symptom is a painful sensation in the throat, together with irritation and copious discharge of tears for forty-eight hours. The chemical rays irritate the conjunctiva, resulting in actual inflammation of the eyes. The patient's skin, meanwhile, takes on an actual erythema, assuming a copper-red color, and, after several days, peels off in various places, and he is otherwise made to feel the unpleasantness of his situation.

A general outbreak of such a disease as this would involve serious consequences. The number of men whose employment brings them in contact with electric light is enormous, and is likely to increase at the same ratio as the comparatively new agent supplants the old means of illumination and becomes used as a motive power. Recent events prove that electricity has passed the experimental stage, although improvements are to be expected. Some claim that the electric light is destined ultimately to supersede gas as a lighting power entirely, and a malady springing from contact with the new power would be a grave matter.

The only remedy so far applied in cases of "electric prostration" has been the wearing of a shade over the eyes by the people affected. This relieves the direct strain upon the eyes, but does not mitigate the gravity of the other symptoms. The disease bears an evident resemblance to that known as "color-blindness," the victims of which are workmen whose duties entail a constant scanning of parti-colored lamps at night in railroad service. The electric light is far too valuable an agent to be retarded in its advancement by a drawback which medical specialists could remedy.

We know that the electric light gives the maximum of light and the minimum of heat, and yet a short exposure to the arc-light is followed by increased lachrymation, photophobic pain, swelling of eyelids, and acute conjunctivitis. The nervous symptoms and discomfort present are

[1] Read before the Medical and Surgical Society of Baltimore, October 25, 1889.

manifestly caused by this peripheral irritation. However, there are cases recorded in ophthalmic literature in which harmful effects and visual disturbances have resulted from exposure of the eyes to intense sunlight on Arctic snowbeds and extraordinary lamplight. The effect is claimed to occur through the sympathetic nervous system rather than as the result of mechanical or even chemical influences. As it is not only transitory in nature but functional in character, so the resulting reflex neuroses, anæsthesias, and paralyses vary in degree and are of short duration. It is not even proven that exposure to bright light of any kind can produce a diffused iritis, nor that acute conjunctivitis will invariably follow. No case of injury to the eye or any part of the body by the incandescent light has been reported, while the dynamo-current has caused immediate death by mechanical force.

Dr. Rockliffe[1] records a case of acute conjunctivitis which he referred to the action of the electric light, the patient having been engaged in adjusting the carbon points of a Siemen's electric lamp of three thousand candle-power, which he did without colored spectacles. After a short exposure to the light the patient was unable to perceive the people on the street, but the effect soon passed away. Much depends on the nature of the light. An excess of current produces a violent light, or a defect of current gives an orange light; both of which are less injurious than the normal white light.

Dr. David Little[2] records a case of retinitis occurring in a gentleman engaged in scientific experiments with the electric light, who had neglected on one occasion to put on dark spectacles; the box containing the light was suddenly opened, and the light fell upon his right eye. It was a great shock to him; his eyes were blinded for several minutes, and were intolerant to light of any kind for two weeks, while over the optic disk and retina immediately around there was haziness for two months. Personally, I have seen several cases of true nervous manifestations, evidently caused by high-pressure electric light. They were not known as neurasthenic individuals, nor had they, previously, defective vision. I therefore cite the case of a patient who was engaged in work with the arc-light, which necessitated his gazing with the naked eye at the light from a distance of a few inches. He awoke next day with smarting in the eyes, shedding of tears, photophobia, congestion of the conjunctiva, and nervous excitability.

The worst cases generally arise from adjusting the lamp (two thousand candle-power while burning) without goggles or smoked glass. The distance of the eyes averages about twenty inches, and with weak eyes the last-mentioned patient claimed that one minute was sufficient to produce certain inflammation, and thirty minutes increased lachrymation and swelling of eyelids. If there is no interocular trouble present, a drop of the solution of atropine gives instant relief.

All who have used the incandescent lamp in reading-rooms, libraries, or theatres have expressed great satisfaction with it. The seven hundred Edison lamps which now light the New York Hospital throughout afford a striking proof of its sanitary fitness and use, and with the aid of movable reflectors enable the performance of operations at night, and I maintain a better and more uniform temperature in the wards than with the use of gas. All incandescent lamps have globes embodied in their construction, which can be obscured and colored as desired. A brilliant effect is obtained by silvering one-half of the globe; a reflector of great power is thus obtained in an advantageous position. The light is so perfect that it need not be used close to the eyes, and the efforts of accommodation are lessened. In view of its steadiness, the iris does not suffer, though always taxed with the flickering light of gas. An opaque lamp-shade, made of glass or tin, should be used, and the light thrown down upon the work when needed. More than ever private residences are being wired for, and lighted by, electricity, and to a notable extent in growing and enterprising large towns. The high-pressure current is transformed by means of the converter to a low potential, and carried into houses at the safe and low pressure of only fifty volts, and, thus utilized in that form for incandescent lighting, is not dangerous to human life. Chandeliers and brackets have been designed for the incandescent lamp of Edison in great variety. In view of the facts that the Edison lamp will burn in any position, its absence of heat, the small size of its wires, its non-consumption of oxygen or vitiation of air, it is clearly proven to be conducive to utility and elegance, and is to be recommended, independent of commercial interest, for true sanitary purposes and genuine comfort instead of gas.

[1] Ophthalmic Review, September, 1882. [2] Ibid., July, 1883.

Clinical Department.

A FOREIGN BODY IN THE TISSUES OF THE NECK FOR THREE MONTHS.

Dr. H. B. Stout, of Parkersburg, W. Va., reports the following case: "Charles B——, fifteen years of age, on the 10th of last July ran against the end of a reed fishing-rod, receiving a slight wound just above and a little to the left of the pomum Adami. There was but little bleeding at the time. About two months later, in drawing his hand down the neck, he felt something under the skin. He thought there might be a sliver from the fishing-rod in the neck and consulted his family physician in regard to it, but nothing was done. On October 30th I saw him and removed a piece of the reed pole about three-fourths of an inch in length and one-sixteenth in width. It had passed through the platysma myoid muscle, and was found at a distance of about a fourth of an inch below the surface. There had been no suppuration, and the patient had never complained of any pain at all since the healing of the original wound."

PEROXIDE OF HYDROGEN FOR THE RELIEF OF BITES FROM VENOMOUS INSECTS.

Dr. Philippe Ricord, of Newark, N. J., writes: "Recently, while charging my atomizer with the full strength of fresh standard Marchand preparation of peroxide of hydrogen, at the bedside of a child suffering with diphtheria, my attention was attracted by the patient's mother, who appeared in pain and stated that, while taking up a blanket to wrap about her child, she supposed she had been pricked by a needle, and, on further examination, discovered a hornet between the folds she had touched. Thereupon I immediately directed the peroxide of hydrogen spray into the wound, the surrounding tissues, in the few seconds that had elapsed, being swollen to such an extent as to distinctly mark its site. Instantly all pain ceased, and the swelling rapidly disappeared. In this case the wound was still sufficiently open to readily admit the peroxide of hydrogen, and the destruction of the virus was, apparently, in a moment so completely accomplished that no further treatment was afterward required. May we not, therefore, infer that it is quite possible to annihilate many other poisons likewise, by the prompt application of so powerful, yet safe, an agent as the peroxide of hydrogen?"

The Number of Dentists in Germany.—According to Dr. Paul Borner's *Reichs-Medicinal Kalender fur Deutschland*, for the year 1888, there are 16,864 medical men and 514 dentists in practice among a population of 46,840,587 inhabitants in the German empire, while the number of chemists' shops is 4,671, and of hospitals 2,737. In the face of these figures it may be truly said that the dental profession is not overcrowded in the Fatherland.

Progress of Medical Science.

Method of Administering Chloral Hydrate in Eclampsia.—Dr. Blanc alludes to the difficulty of administering the drug by the mouth to patients in whom consciousness is impaired or lost, and to the drawbacks and uncertainty of its administration subcutaneously or *per rectum*. He then points out that with a patient lying on the back it is easy to introduce liquids *via* the nostrils by means of a funnel. Even in deep coma the reflexes continue to act, and, on arriving in the pharynx, the constrictors seize it and convey it to the stomach. This simple plan, however, is not exempt from inconvenience, and the author prefers to use an œsophageal tube, which may be introduced either through the mouth or the nose. The great point is to avoid the ingestion of too concentrated solutions of the drug, which is apt to set up vomiting. One part in thirty or forty, he considers, is as strong as it is safe to use. On the whole, he thinks that medical men give too little rather than too much, as a rule, and he approves of the dose being pushed to ʒ iv. in the twenty-four hours in severe cases. Moreover, chloral is not to be looked upon as exclusively a remedy in acute attacks, and the author recommends its use as a prophylactic, in cases of marked albuminuria associated with pregnancy, in doses of from forty to seventy grains daily.—*The London Medical Recorder.*

The Antiseptic Function of the Gastric Juice.—Professor Kast, the Director of the new General Hospital, Hamburg, writes on this subject in a "Festschrift" on the occasion of the opening of the hospital. Spallanzani showed, a hundred years ago, that the gastric juice has an antiseptic influence, and it has since then been proved by N. Sieber, C. Schmidt, and others that this influence is due to the free hydrochloric acid which it contains. The investigations of Baumann have shown that in healthy subjects the aromatic bodies found in the urine are due exclusively to intestinal decomposition, their amount, as united with sulphuric acid, being in a direct relation with the amount of the products of decomposition in the intestine. In Professor Kast's experiments the exact relation of the ether sulphates to other sulphates in the urine was ascertained by daily examinations, a uniform diet being given, and then copious alkalies were supplied in the food, so as to neutralize the gastric HCl; and the effect of this on the ether sulphates of the urine was examined. The conclusion is arrived at that the antiseptic function of the gastric HCl is its chief function, while its digestive function is a subordinate one. This is only true so far for the products of ordinary decomposition; the case is different with the pathogenic bacteria, many of which are highly resistant organisms. We have no means at present of estimating the amount of the chemical products due to the vitality of pathogenic organisms in the intestine. It is true that Brieger regards the diamines as due to pathogenic bacteria. But the diamines are a direct product of such bacteria, not, like the aromatic bodies found in the urine, formed from a previous substratum due to bacterial activity. Moreover, we have no clear ideas on the transition of such diamines into the urine. Hence at present we have only to fall back on the physiological action of pathogenic bacteria as an index of their existence. Baumann's and von Udransky's quantitative estimate of pentamethylene diamine (Brieger's "putrescin") in the urine, but originating in the intestine, constitutes the latest advance in this direction.—*British Medical Journal.*

"Bilious Attacks" in Neurotic Subjects.—Dr. Money says that bilious attacks in neurotic individuals are very different paroxysms from those seen in habitual or occasional over-feeders (*The Lancet.*) A clean tongue, a scanty high-colored lithatic urine, a sallow face, white motions, dilated pupils, low spirits, and absence of energy, constitute the clinical entity in many cases of "bilious attacks." These are very common in neurotic children with dainty appetites, in whom to suppose that irritation and vascular engorgement of the viscera, from over-feeding, exist, would be ridiculous. A sharp purge to these patients may do more harm than good, though it is possible to set the viscera working again by such sudden means. An inadequate liver may be the cause of a toxæmia which exerts a selective action on the mental centres originating melancholia—a view most favored by the laity, but as often incorrect. In truth, a mutual tension between the viscera and the brain exists—reciprocity rules the realms of the human body as it does the social organism. The truth appears to be that the viscera may go wrong as the result of being undercharged with nervous energy, and they simply cease to work effectively because of defective nervous energization. The correct treatment is not a dose of castor-oil, but a tablespoonful of wine at once, and a teaspoonful of sirup of the hypophosphites thrice a day for one week.

Morbid Changes in the Fauces and Larynx in Scarlatina and Diphtheria.—Having examined microscopically the fauces and larynx from ten cases of scarlatina, and as many of diphtheria, Dr. Tchernïaieff has arrived at the following general results: 1. In scarlatinal sore-throat faucial deposits represent a fine granular mass (detritus) resulting from disintegration of a simple inflammatory infiltration. In idiopathic or genuine diphtheria the deposit occurs in the shape of a peculiar hyaline net-work, which represents a product of a specific necrosis of the tissues. 2. In scarlatinal angina the faucial and laryngeal tissues themselves are found to be affected by an acute, diffuse, fairly deep vascular granulation inflammatory process in various stages of its development. In diphtheria the tissues undergo coagulation-necrosis, while inflammatory changes occur only secondarily, and by no means constantly. 3. In scarlatina the faucial blood-vessels present common inflammatory phenomena, such as dilatation, engorgement, peripheral accumulation of granulation elements, etc., while in diphtheria they are found to be attacked with hyaline degeneration. 4. In scarlatina the epithelium undergoes pronounced degenerative (retrograde) changes, while in diphtheria it remains usually intact, even in the immediate neighborhood of necrotic foci. 5. In scarlatina the faucial and laryngeal changes are generally of a more diffuse character, in diphtheria of a more circumscribed one. In the course of a discussion following Dr. Tchernïaieff's communications Professor Vysokovitch stated that some researches of his own fully support Loeffler's views, according to which the etiology and histology of scarlatinal diphtheria are quite different from those of genuine diphtheria. In the scarlatinal variety there are invariably found, in great numbers, septic streptococci, which penetrate deeply into the mucous and sub-mucous membranes, and are accompanied by deeply seated foci of necrotic disintegration. In true diphtheria there are detected microbes of a different species—namely, Klebs-Loeffler's bacilli, which, in addition, lie only in the upper and middle layers of false membranes, but never reach the level of the subjacent mucous membrane itself. Dr. Iatzevitch, of St. Petersburg, similarly thinks that scarlatinal diphtheria is essentially different from the genuine diphtheria. As an indirect proof he adduced the fact that, having happened to observe, at a Poltava village, in 1887, a scarlatinal epidemic, attacking 120 patients, and lasting about four months, he met with scarlatinal sore-throat in as many as twenty-five per cent. of the cases, but he did not come across a single instance of genuine diphtheria about the locality during the whole period mentioned.—*Journal of Laryngology.*

Insane Hospital in Chicago.—The County Commissioners propose to erect an insane hospital on the lake shore, some miles north of the city; cottage plan.

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FOR DIPHTHERIA IN YOUNG CHILDREN.

THE means at hand for the successful treatment of diphtheria of the fauces in children who are old enough to submit to treatment without resistance, are amply sufficient in most cases. It is generally quite easy to keep the membrane from excessive development, or even to free the surfaces of the throat entirely from it, by the constant use of gargles or sprays, or direct application with the hand of solutions which dissolve the membrane, yet do not irritate the tissues. In the case of infants or of children who struggle violently against local treatment the practitioner is driven to despair. The exhaustion of the patient produced by frequent battles with its nurse, and by the violent crying spells which are excited, as well as the incompleteness of the application under such trying circumstances—especially when a trained nurse is not employed—soon convince him that it is better to give up energetic local treatment, and to trust to medication of the air of the sick-chamber and to internal remedies.

It is in view of such difficulties in treatment that the suggestions made by Dr. Burghardt (*Wiener Med. Wochensch.*, September 28 to October 5, 1889) seem worthy of attention. Before the year 1882, he had treated diphtheria of the fauces with the various medicaments in vogue, but only too frequently his efforts had been fruitless. Observing at that time the success which followed the application of sulphur to vines affected with the disease produced by the oidium vitis, and realizing the germicide, and, what is of even more importance, the tonic virtues of quinine, he determined to apply these two drugs to the diseased surfaces in the form of a fine powder, thus combining in one application the advantages to be gained from both local and general treatment. Although sulphur and quinine have often been recommended for use separately, he knows of no one who has used them together in this way.

He rubs equal parts of sulphate of quinine and washed flowers of sulphur together into a very fine powder. One and a half to three grains of the powder must be blown upon the diseased parts with a common insufflator, the mucus having been previously removed from the throat by a gargle or a drink of water. After the mass of powder has been blown upon the parts most diseased, that which remains in the insufflator should be blown upon the adjacent surfaces, into the posterior nares, into the recesses of the larynx, and into the anterior nares. This should be done twice a day, both during the disease and, with smaller doses, for some days after the disease has disappeared. As the powder has no odor, the little patient makes no more objection to its application than to any form of local treatment or examination. For an hour and a half after the application nothing solid or liquid should be taken into the mouth or swallowed by the patient. Since 1882 he has treated in this way 33 cases, in patients from one to twenty-four years of age. The type of disease in 1884 was very severe, with many fatal cases throughout the city. Whereas by other methods he had lost almost three-fourths of his diphtheritic patients, by this method he brought these thirty-three consecutive cases safely through. In some instances the diphtheritic membrane covered the whole surface of the mouth, and had spread even to the lips and nostrils.

Since he has had such good results with this insufflation, he has entirely given up inhalations. When it is advisable he recommends, with the insufflation, cold external applications to the neck, sucking of ice, and gargling with solutions of chlorate of potassium or lime-water. With children under three years of age it is often impossible to use these additional applications. Between the insufflations he gives tincture of iron, wine, and brandy, as tonics; and if blood-poisoning appears, stronger doses of iron, with ergot and lemon-juice. Such blood poisoning appeared in only one of the thirty-three cases, in which the family would not permit him to see the patient daily.

He keeps up the insufflations until all glandular swelling has subsided. All of his cases were seen early in the attack. In most cases, as soon as insufflation was begun the fever fell and the debility gradually disappeared. The membrane separated in bits, and though a second or third membrane occasionally formed, the process gradually ceased. The patients always felt fresher and more calm, with better appetite and less painful deglutition, after each insufflation. There were no complications nor sequelæ, except in two cases, where middle-ear catarrh and perforation of the drum occurred.

The insufflation must generally be made by the physician, as he must first locate the membrane, and must apply the powder quickly and accurately.

Dr. Burghardt presents his method not as absolutely sufficient, but as well worth testing.

THE STATE MEDICAL SOCIETY—A CRITICISM.

A CORRESPONDENT sends us the following sensible suggestion: "Criticism at times provokes reform. There is room for reform in the management of the scientific business of the State Medical Society. This, I doubt not, is the unanimous verdict of those present at the initial session of this society for the current year. Fully two hours were consumed—some think were wasted—in the discussion of executive business, leaving two hours for the reading and discussion of seven papers. These papers were doubtless all carefully prepared, and the readers, at more or less inconvenience, went to Albany in the hope that some addition to science might be the outcome of the discussion. The attempt to crowd this number of papers and their discussion within the time limit could have, of course, but one result—a farce. No

one present will forget the manner in which the presentation of the papers was blighted in the egg, so to speak, and discussion was strangled. Very likely the officers of the society regret more than anyone else this parody on the transaction of scientific business. It rests with them and their successors to devise the remedy. Executive business is important, but scientific business should not on this account be crowded to the wall."

This is not the only complaint in this direction which has been made to us, and it behooves those who manage the society that there is more system for the carrying on of scientific work, and less time given to wire-pulling and log-rolling for offices.

COLUMBIA COLLEGE CELEBRATION.

At the installation of Seth Low as president of Columbia College, on Monday last, the medical profession of this city was well represented. Among the distinguished guests upon the platform, side by side with judges, statesmen, presidents of colleges, soldiers, clergymen, and men of letters, sat those of our own profession who had worked long and faithfully in the grandest calling of all. The gathering, taken altogether, was the most notable one which has assembled for a long time upon any platform, and did honor to the college, to the noble cause which it represents, and to the new president, whose acceptance of the charge promises so much for the future of the grand old school. The medical profession is proud of the opportunity of lending its influence to the good cause, and points with just pride to the fact that two representative men from its ranks are on its board of trustees. No more fitting men than Drs. George L. Peabody and William H. Draper could have been chosen for the positions, and none who are better able by their wide learning, distinguished reputation, and wise counsel to add weight, wisdom, and power to the government of old Columbia.

FOR THE PREVENTION OF BLINDNESS.

Of the different bills now before the New York State Legislature, of interest to the medical profession, there is one which certainly deserves favorable consideration : this is entitled an Act for the Prevention of Blindness, and provides that every midwife or nurse who has charge of a case of purulent ophthalmia of infancy shall be obliged to report the same promptly to the local health physician, and failure to do so is to be punished by a considerable fine, or punishment, or both.

According to the report of a special committee on blindness appointed by the State Society, it appears that between 1870 and 1880, while the population of the entire United States increased 30.09 per cent., the number of blind increased 140.78 per cent ; during the same time, blindness in New York State increased 8.2 times as rapidly as the population, and during the last five years of that decade it increased 13.7 times as rapidly. The report of this committee gives due weight to the fact that such statistics are apt to be misleading, but concludes that in all probability the increase of blindness is really much more rapid than the increase in population. However this may be, there are two undisputed facts which of themselves would be sufficient to warrant the adoption of any such measure as this act contemplates. In the first place, it has been established by a large number of examinations of the inmates of blind asylums in different parts of Europe, as also by similar investigations made at the New York State institutions for the blind at Batavia, and in New York City, that about one-fifth of all these cases of blindness are those which have resulted from purulent ophthalmia of infancy. Next we have the clinical fact that, when these cases receive proper treatment in the early stages of the disease, recovery results in all but an exceedingly small proportion. In other words, the destruction of the eye from purulent ophthalmia must now be regarded almost invariably as due to carelessness or neglect. The object of this legislation is, therefore, to forcibly impress upon nurses and midwives the importance of the disease, and by calling the attention of the parents to the fact that the slighter forms of the inflammation are something more than "a cold in the eyes," as it is often termed, to have them seek for their children that medical advice and attention which this class of cases promptly demands.

THE ABUSES OF UTERINE TREATMENT.

The Medical Record has always tried to deal fairly with its friends, the specialists, as well as with its friends, the general practitioners. It has felt, to be sure, a keener sympathy with those of the latter class, for it is they who, after all, give the character to our calling, and upon them the great burden of medical work falls. Everything that can lend advantage to the general practitioner, that can help him in his daily work and make his life more fruitful and successful, we have studied to encourage. We cannot be unmindful that most of scientific progress, and much of the practical advances in the technique of our art, are due to the work of specialists. Yet with this work there has too often developed a tendency to narrowness of view, and to the application of some special treatment to an excessively wide range of diseases; and also of finding in unoffending organs pathological processes that were of extremely little moment until brought to the attention of the patient.

We have thought sometimes that our gynecological friends were to be specially condemned in this respect. And we have for several years lamented the gynecological furor which has seized the American profession. An esteemed contemporary has even referred to this journal as anti-gynecological. The criticisms which we have uttered in the past are all mild, however, compared with those now frequently appearing in contemporary journals, sometimes from gynecologists themselves. And we take pleasure in quoting the concluding words of Dr. William Goodell in an article on "The Abuses of Uterine Treatment." He says :

"From a large experience I humbly offer to the reader the following watchwords as broad helps to diagnosis :

"1. Always bear in mind what another has pithily said, that 'woman has some organs outside the pelvis.'

"2. Each neurotic case will usually have a tale of fret or grief, of cark and care, of wear and tear.

"3. Scant or delayed or suppressed menstruation is far more frequently the result of nerve-exhaustion than of uterine disease.

"4. Anteflexion, *per se*, is not a pathological condition. It is so when associated with sterility or painful menstruation, and only then does it need treatment.

"5. An irritable bladder is more often a nerve symptom than a uterine one.

"6. In a large number of cases of supposed or actual uterine disease which display marked gastric disturbance, if the tongue be clean the essential disease will be found to be neurotic, and it must be treated so.

"7. Almost every supposed uterine case, characterized by excess of sensibility and by scantiness of will-power, is essentially a neurosis.

"8. In the vast majority of cases in which the woman takes to her bed, and stays there indefinitely, from some supposed uterine lesion, she is bedridden from her brain and not from her womb. I will go further, and assert that this will be the rule, even when the womb is displaced, or it is disordered by a disease or by a lesion that is not in itself exacting or dangerous to life.

"Finally, uterine symptoms are not *always* present in cases of uterine disease. Nor, when present, and even urgent, do they necessarily come from uterine disease, for they may be merely nerve-counterfeits of uterine disease."

THE BOGUS MEDICAL DIPLOMA BUSINESS IN AMERICA.

The *British Medical Journal* has devoted a long editorial to a presentation of the sensational story of the bogus medical diploma business in this country published in a Boston daily paper. We regret to see this, for the reason that in all probability the article has but the very flimsiest basis of fact.

Many of our States have medical registration laws, which call for a rigid scrutiny of diplomas, and the existence of bogus college business would soon be detected.

THE HYDERABAD CHLOROFORM COMMISSION.

The Second Report of this commission, of which Dr. Lauder Brunton, of London, was president, has been made, and the results appear to contradict totally previous views held as to the action of chloroform upon the heart and respiration. Experiments were made upon five hundred animals; they began in October last, and the final report, just published in *The Lancet*, shows that the respiration is always stopped before the heart. Dr. Brunton acknowledges the change made in his own opinion by his recent work, and the conclusion to be drawn is that death from chloroform is preventable. *The Lancet* says: "From the report it will be seen that the discrepancy between the views of different schools arises from the fact that sufficient consideration has not been given to the conditions under which the chloroform is given. Although it may paralyze the heart if applied directly to it, yet this condition does not occur in practice, for here it is neither applied to that organ nor yet is it blown forcibly into the lungs. It is inhaled by the patient, and when this is the case it stops the respiration before the heart. The practical outcome of the research would appear to be that deaths from chloroform are not inevitable."

It is possible that the report in question will seriously affect the practice of surgeons, but we doubt if it will do so before further evidence, both experimental and clinical, is given to the profession.

"WHAT LA GRIPPE REALLY IS."

We have received a copy of *Kate Field's Washington*, with a request to please notice an article entitled "What la Grippe Really Is." We are pleased to make the notice requested.

The article in question resolves the secrets of *la grippe*, and tells us in simple language what the most expert bacteriologists of the world have, as we had supposed, failed to discover. The disease is due to infusoria discovered by Dr. J. H. Salisbury in 1873. The pictures of the parasite in question are given with considerable artistic skill. Of course, the presence of the pictures settles it; or at least seems to do so in the mind of the writer of the article, since no other proof is given. As a matter of fact, however, there is not a fragment of evidence that those parasites cause the "grip."

The organism has not been cultivated or inoculated, or put to even the simplest tests which modern bacteriology demands for proving their specific character.

The announcement in a lay journal, that "*la grippe* really is" due to the Salisbury infusoria, spreads abroad an error which perhaps does no serious harm, but reflects very much upon the need of a scientific editor for *Kate Field's Washington*.

SANITARIANS AS ALARMISTS.

Even the most despondent pessimist in our profession is forced to admit that the science of preventive medicine is making great strides in this latter part of the nineteenth century. Many indeed profess, and perhaps not without some excuse, to see in this direction the only signs of real progress, and they turn despairingly from the attempted cure of disease to plunge with ardor into the study of its prevention. We look with admiration upon the workers in this field, and we rejoice with them in every triumph which they have to record; but we cannot refrain from calling attention to an error into which they are prone to fall, and whereby they endanger greatly the immediate success of their labors. They are apt to go too far and to attempt to prove too much.

Men are willing to be scared a little, but they will not allow themselves to be scared too much. They are reasonable also, and are ready to put up with many inconveniences for the good of the community, but their patience and their faith have limits. When one thing after another is forbidden simply because some sanitarian says that it contains the germs of disease, they begin to doubt. They see that their fathers drank ice-water in moderation and yet lived to a good old age, although they are now told that ice holds many bacteria which only await liberation to work destruction among the sons of men. They have seen people riding in sleeping-cars for many years, but are now informed that it is only at the peril of their health that they ever pass a night in these pest wagons. They have been accustomed to look upon a sea voyage as health-giving, but are now told that it is almost a miracle if one reaches the shore without having received into his

lungs the germs of consumption. It is no wonder that they become incredulous after a time and refuse to accept any advice from the sanitarian, especially if such advice runs counter to their material interests.

Much, if not most, of the opposition which health officers have to contend against comes from individuals or corporations whose interests are threatened, and the only effectual way of overcoming such opposition is through an appeal to public opinion. Laws are useful and necessary, but they are of comparatively little avail unless backed up by the intelligent approval of the public. We may gain the support of the people by appealing to their reason and common sense, but not by working upon their fears and conjuring up causeless alarms, which their own experience tells them are existent chiefly in the mind of the too zealous sanitarian.

THE DISPENSARY ABUSE ONCE MORE.

IT seems an almost hopeless task to protest any further against injury done to the great mass of the profession by the dispensaries in this and other towns throughout the country, so much has been said and written against this abuse, and so little has been gained. Indeed, we might rather say so much has been lost, for the evil has abated not one jot, but has steadily increased, and the bread-and-butter problem is daily growing more perplexing to the young practitioner.

Of course there are arguments in favor of the existence of dispensaries, and we cheerfully admit the force of some of them. A few institutions of this kind are necessary in a teaching centre in order to obtain material for educational purposes. The era of didactic teaching is drawing to a close, and the necessity of clinical instruction is now universally recognized. The latter is impossible without a supply of material, and the dispensaries are perhaps needed to keep up this supply. If this were all, if the college dispensaries admitted only so many patients as were necessary to meet the demands of clinical instruction, and if they were careful to exclude the kid-glove and sealskin paupers, there would be but little opposition to them. But there are others, not necessary to mention, which have no such excuse for their existence. They are not available for the purposes of clinical instruction, and live only to gratify the vanity of their managers, who love to be looked upon as philanthropists, and to be lauded in public for their devotion to the cause of sweet charity. Everyone knows—at least every medical man knows—that there is no charity in such places, and that the sick poor would be just as well or better treated were every such dispensary razed to the ground.

What is the remedy for this evil? Protests are useless, arguments have effected nothing, and petitions would be unheeded. If the young practitioner, or the old one either, for that matter, wants to correct this abuse, he must act, he must combine with his fellow-sufferers and see what he can do for himself in the matter. Let him fight fire with fire. If it is allowable for a number of physicians to treat patients free during certain hours at a dispensary, why is it not equally permissible for the individual to do so? Let every physician who wishes to increase his clientèle and to make himself known in a legitimate way to a larger circle, have certain hours of certain days during which he will treat gratuitously the deserving poor, and let him see to it that the fact becomes known in his neighborhood. It will not be long before he finds himself with plenty to do in these hours, and if he does his best for these free patients he will soon find his waiting-room comfortably filled during his paying hours. He will have the satisfaction of knowing that he is doing good to the really poor, while, at the same time, the bread that he casts upon the waters he will see coming back to him in abundance at every turn of the tide.

This is no wild or revolutionary scheme, and there is nothing in its execution that can in any way lower the dignity of the profession of medicine. It is not even new, for it has been proposed and carried out many times. It is a practical measure for dealing with the question of dispensary abuse, and if it were adopted generally by physicians everywhere, the *dies iræ* of the useless dispensary would be at hand, and it would speedily pass to the well-deserved purgatory of an innocuous desuetude.

News of the Week.

Dr. Edwin Webb, who was probably the oldest physician on Long Island, died at his home in Hempstead, January 29th, aged eighty-six years. He was born in England. He studied medicine at the College of Physicians and Surgeons, N. Y., graduating in 1825.

Alleged Cure for Hydrophobia.—The daily papers announce that Dr. Bokai, a professor at the Klausenburg University, claims to have discovered an absolutely certain antiseptic remedy for hydrophobia, destroying the virus at the seat of the bite. It consists of a solution of chlorine, bromine, sulphurous acid, and permanganate of potash, with oil of eucalyptus.

Treated at Pasteur's Institute.—According to the *Bulletin Médical*, the last death from hydrophobia which occurred after inoculation at the Pasteur Institute took place on the 21st of August last—that is to say, five months ago. Since then 850 persons have been treated at the Institute, and not one death has occurred among them.

Beer and the Influenza.—In Munich, the daily consumption of beer has been reduced by upward of thirty thousand gallons since the influenza broke out.

The Hospital Book and Newspaper Society of this city is a useful charitable organization, having for its object the distribution of reading matter among the sick and suffering. During the past year it has distributed 8,034 books, 20,701 magazines, 37,696 illustrated and weekly papers, 6,171 Christmas and Easter cards, and 133,611 newspapers.

The Increase of Insanity in New York State.—The State Board of Charities, in its recent annual report, says that the increase in the number of insane in the State has averaged about six hundred and sixty each year for nine years. That is over sixty-two per cent., against an estimated increase in population of eighteen per cent. Besides the 15,482 insane in institutions, the Board estimates that there are enough in family care to raise the whole number to 20,000, or 1 for every 300 persons.

A Board of Medical Examiners for Washington, D.C.—Senator Ingalls introduced a bill in the U. S. Senate establishing a board of medical examiners for the District of Columbia. The bill provides that the board shall consist of ten physicians or surgeons, three dental surgeons, and in addition five homœopathic practitioners of medicine. The term of office shall be four years. The members are to be appointed by the District Commissioners, and the board is to prescribe rules and regulations for the examination of all candidates for the practice of medicine appearing before it. The board is to examine all persons of either sex appearing before it, and when an applicant shall have passed a satisfactory examination the president of the board shall grant to such a person a certificate to that effect. Examinations are to be practical, and no candidate is to be kept waiting for an examination for a longer period than thirty days. Re-examination can be held at the expiration of three months. Any person obtaining a certificate from the board shall register the same at the health office, and shall then be allowed to practise the branch in which he has passed the examination; and no person shall commence the practice of medicine, surgery, or dentistry in the District who has not first obtained such a certificate. No person not a registered practitioner of medicine shall offer for sale any drug, nostrum, etc., without first obtaining a certificate from the board setting forth that the said article may be offered for sale. Violations of the act are to be punished by a fine of not less than $20 nor more than $100, or by imprisonment for not less than 30 days nor more than 365 days, or by both. Nothing in the act is meant to affect the business of registered pharmacists, or of physicians called in for consultation from other cities.

The Need for Ambulance System in Chicago.—The city authorities are considering—unfavorably, it is to be hoped—the erection of emergency hospitals in different quarters for accident cases. Physicians generally seem of the opinion that the need is not for more hospitals—of which Chicago has an ample supply scattered over the city—but for an ambulance service such as obtains in New York, for example. At present Chicago has absolutely nothing for the care and transfer of emergency cases except the patrol wagon manned by three policemen only. The recent death of a woman without medical attendance, forty-eight hours after application had been made to the proper office for pauper relief, the "County Agent's," has called public attention to the inefficiency and red tape of that office. The application was made one morning; next day the official visitor investigated, turned in an approval that night, and a physician sent the next morning found that the patient had died a few hours before his arrival. The county has contracts with various charitable organizations—dispensaries—to visit the county poor; the physicians respond promptly, but, as in this case, much time may be consumed by the machinery of the office. Improvement is promised.

Nothing New to be Said about the Influenza.—In response to a letter from the editor of the *Deut. medicin. Wochenschrift*, asking for a contribution to the subject of influenza, Professor Hirsch, the celebrated epidemiologist wrote: "My dear Colleague: Just recovered from a very unpleasant attack of influenza. I hasten to express to you my regret that I cannot comply with your request regarding a critical report on the prevailing epidemic for your valued weekly. The news of the epidemic hitherto to hand are so scanty and so unreliable that it might be labor in vain to attempt to form out of them a faithful picture of its course and character, and it would really be hardly worth while to collect news about it, for I am convinced that it does not essentially differ in any respect from all the influenza epidemics that have hitherto been observed. The great sensation caused by the appearance of the disease is due simply and solely to the indifference of the great mass of the medical public to all that history teaches. The culminating point is the assertion of the French physicians that the epidemic in Paris is dengue, but matters are not much better among ourselves. What I had to say about influenza I said in the second edition of my 'Historico-Geographical Pathology,' and there is nothing new to hand. With best regards, yours most truly, HIRSCH."

London Doctors and the Lay Press.—A lady reporter has been interviewing, or rather calling, upon some of London's popular physicians in the guise of a patient. The *Medical Press* says: "The necessity of a 'silver key' at Sir Morell Mackenzie's, the impossibility of seeing Sir Andrew Clark at all 'without an appointment,' and the 'bowed form' of Sir Oscar Clayton, brought about, as in the case of Sir Pertinax McSycophant, by much 'booing,' are all life touches which will be universally recognized; but the description of a visit to Dr. Robson Roose is too delicious to be so briefly dismissed. His condescension in seeing the patient after his hours, his reassuring affability, his congratulations on her having escaped falling into the hands of 'unprincipled' persons who would 'inconsiderately,' he did not say intentionally, have unduly frightened her, are fitly capped by the final question in parting as to how the lady came to consult him at all. The interrogation of a physician who has sixty patients under his hands with the prevailing epidemic, 'from Cabinet Ministers downward,' as to whether she came '*through a chemist*,' is a touch worthy even of a Molière."

The Metropolitan Medical Society is the title of a society which has been organized in New York, and will hold its meetings at the residence of members on the first and third Thursdays of each month, with the exception of July and August. Dr. Charles Schram, 136 East Eighty-second Street, is the corresponding secretary.

Receiving Hospital, San Francisco.—Dr. Robert Bunker, formerly physician at the Old People's Home, has been appointed by the Board of Health as Assistant Surgeon in the Receiving Hospital.

Directory for Nurses.—The Kings County Medical Society maintains at its rooms, 356 Bridge Street, Brooklyn, a directory of three hundred and eleven nurses in the city. Every one of those registered was engaged during the recent epidemic, and forty more could have been employed. This registry is conducted without any expense to the society, and the person in charge also cares for the reading-room and library.

The Chicago Polyclinic has a new plant worth $40,000 and is consequently in a very flourishing condition.

Hospital for Infectious Diseases in Chicago.—Several ladies of means have undertaken to supply a "long-felt want" in Chicago—a hospital for infectious diseases, particularly diphtheria and scarlet fever. Such cases are turned away from all existing hospitals. The amount of subscription already received indicates success.

Women Doctors in Germany.—An association of German ladies, at a meeting a short time ago, passed a resolution agreeing to a petition being presented to the divers German governments, praying for permission to be granted to women to study medicine. The petition so far has been flatly refused by Prussia, Wurtemberg, Saxony, and the Duchies of Hesse-Darmstadt and Saxe-Weimar.

The Death-rate of this City was last week 25.52 per thousand, as against 28.46 for the preceding week.

Tenement-house Mortality.—Dr. R. S. Tracy, the Registrar of Records of the Health Department, has submitted to the Board of Health a report on the tenement-house mortality of 1888, supplementary to a report made by him on the same subject in June, 1889. The doctor says that since the beginning of 1880 all tenement-houses have been constructed under the supervision of the Health Department, and the construction of rear tenements has not been permitted. The records show these things: 1. The death-rate was lower during 1888 in houses standing singly on a lot than where there were both front and rear houses. 2. The death-rate in houses built since 1888 was lower than in houses built before that time. 3. The death-rate was remarkably lower in houses built since 1886, both for adults and children. 4. The highest death-rate in the district south of Fourteenth Street and west of Broadway was below Reade Street. 5. The highest child death-rate was in the Ninth Ward, and the next highest in the Fifteenth. 6. The highest death-rate of persons over five years of age was in the First and Third Wards, and the next highest in the Eighth.

The Sick and Dependent Classes of New York.—The State Board of Charities estimates that the number of inmates in all the institutions for sick and dependent classes, October 1, 1889, was 67,781, of whom 15,482 were insane, 20,949 orphan and dependent children, 1,330 idiotic and feeble-minded, 584 epileptic, 657 blind, 1,328 deaf and dumb, 4,765 juvenile offenders and delinquents, 973 disabled soldiers and sailors, 3,782 hospital and infirmary patients, 7,007 aged persons in homes for the friendless, and 9,980 in almshouses. During the year medical and surgical relief was furnished to 443,341 outdoor patients.

Ambulance Service in San Francisco.—A movement is on afoot in San Francisco to establish a much needed ambulance service in that city.

Presbyterian Dispensary.—Dr. Henry C. Coe has resigned from the Presbyterian Dispensary, New York.

A Maternal Impression.—A writer in the *Medical Brief* reports a case of spina bifida, in which the midwife alleged as a cause that the child was marked in consequence of the mother having worn a bustle.

Exempting Doctors from Taxation.—A bill exempting physicians from personal taxation is before the Legislature of Mississippi. It meets with much opposition on the ground of class legislation.

To Care for Lepers.—Miss Amy C. Fowler, whose religious name is Sister Rose Gertrude, has taken the place of Father Damien, the leper martyr, and will shortly sail for Molokai, of the Hawaiian group, and enter upon her life mission. She is a native of England, twenty-seven years of age, and a recent convert of the Roman Catholic faith. Miss Fowler will have a salary from the Hawaiian Government. She expects to have but little use for the money herself, but intends to devote it to the benefit of the hospital and its patients.

The Cincinnati Polyclinic.—Dr. C. S. Ayres has been elected President of the Cincinnati Polyclinic Graduate School of Medicine.

Obituary.

CHARLES S. WOOD, M.D.,

NEW YORK.

Dr. Wood was born in Litchfield, Conn., February 27, 1825. He taught school after he became of age, at the same time studying medicine with Drs. Beckwith and Seymour, of Litchfield. When he was twenty-six years of age he received his degree from the Jefferson Medical College, having previously taken a course of lectures at the College of Physicians and Surgeons, New York. He began the practice of his profession at Greene, Chenango County, this State. In 1862, however, he joined the Army of the Potomac, having been commissioned an Assistant Surgeon in the Sixty-sixth New York Volunteer Infantry. In a year he was promoted to Surgeon of the regiment, and on September 9, 1863, he received his commission as Surgeon, United States Volunteers.

He participated in all of the battles of the Army of the Potomac until about the time when he was transferred to the staff of General Wright, serving at San Francisco and Sacramento. He took charge of the general hospital at the Presidio, San Francisco, and at the close of the war he was ordered to Alcatraz Island, in San Francisco Bay. He returned to New York in 1867, and has since lived here.

At the time of his death Dr. Wood was President of the New York County Medical Association, having been just elected to his second term. He had served for two years as President of the Medico-Legal Society, and was a Fellow of the State Medical Association, the American Medical Association, a Fellow of the New York Academy of Medicine, and ex-President of the Northwestern Medical and Surgical Society of New York.

Dr. Wood was well known to the profession as ranking with the most industrious, and as being very active in society matters. He was one of the founders of the New York State Medical Association, and took an unusual interest in its success, being one of its representatives at the Ninth International Medical Congress. He also wrote occasionally for the medical press, chiefly on practical and therapeutical subjects, and had a bias for medical jurisprudence, surgery, and physiology. A quiet, modest man, with an exceptional knowledge of parliamentary usage, he always made a satisfactory society president.

His health had been failing for some time past, although his death, which occurred at his residence, on the first instant, and was due to chronic nephritis, was somewhat of a surprise to his many friends.

Society Reports.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Eighty-fourth Annual Meeting, held at the City Hall, Albany, February 4, 5, and 6, 1890.

[By Telegraph to the MEDICAL RECORD.]

DANIEL LEWIS, M.D., PRESIDENT, IN THE CHAIR.

FIRST DAY, TUESDAY, FEBRUARY 4TH—MORNING SESSION.

PRAYER was offered by Rev. Dr. Raymond.

President's Address.—In his inaugural address the President suggested that members and county societies give their orders for the volume of "Transactions" in advance of its publication; and that presidents of county societies should be made members of the State Society by virtue of their office.

The Indigent County Insane.—Every member should do all in his power to have the bill now before the Legislature passed, providing for State care of county indigent insane.

State Board of Medical Examiners.—It was hoped the bill providing for a State Board of Medical Examiners, which will be presented for approval by the Society on Thursday, will receive unanimous support. He recommended the New York Physicians' Mutual Aid Association to the members of the profession throughout the State.

Committees.—*Business Committee*—Drs. George H. Fox, Henry Flood, and Herman Bendell. *Committee on Credentials*—Drs. Charles Jewett, C. M. Culver, and Seneca D. Powell. *Committee on the President's Address*—Drs. W. W. Potter, of Buffalo; A. Jacobi, of New York, and A. Vanderveer, of Albany.

Report of Committee on By-laws.—Among other changes recommended was that attendance on only two annual meetings be necessary to make members eligible to permanent membership. They also recommended the appointment of a "Finance Committee," to consist of the president, secretary, and treasurer, to which should be referred all matters relating to the expenditure of money.

The committee recommended that where the Nominating Committee failed to agree on the three highest officers of the Society, they report the three receiving the highest number of their votes, from among whom the Society shall make its choice.

The report was ordered printed for distribution.

Report of the Committee on Revision of the Pharmacopœia.—Dr. Stoddard read the report, which was one of progress. It was accepted, and the committee, consisting of Drs. Stoddard, Johnson, and Rice, were made delegates to the convention to be held at Washington in May.

Report of Committee on Prize Essays.—Dr. George F. Shrady sent the report, which was read by Dr. Beach. But one essay had been submitted, and this, while deemed meritorious, did not fully comply with the conditions.

The time for reading papers was limited to fifteen minutes, for discussion to five minutes.

The Time Element in Saving the Perinæum.—DR. ROBERT L. DICKINSON, of Brooklyn, read the paper, which was a plea for sufficient time in perineal distention. The need of this was shown by experiments on the cadaver, but particularly by clinical observation, his paper giving a list of one hundred and forty-seven cases. The ruptures in primipara usually given was about twenty-one per cent., in nullipara about fifteen per cent. Out of bad hospital cases, including the hydrocephalic, etc., about thirty-three in number, he had had only about twenty-four per cent. of injuries of the perinæum. Rapid, forcible delivery was shown by statistics to give a large percentage of injuries.

Injury of the Perineal Body.—DR. H. C. COE had adopted the views enunciated by Dr. Emmet, that injury of the perinæum did not necessarily imply rupture of either the skin or mucous membrane, but simply of the body of the perinæum.

The Injury Takes Place Before the Perinæum is Distended.—DR. EMMET explained his views, and said the injury usually took place before the perinæum (skin and mucous membrane) was put on the stretch. The ordinary method of supporting the perinæum by the hand did actual harm.

Drs. Grandin, Potter, and Jewett also objected to supporting the perinæum, by which the progress of the head was retarded.

Extra-uterine Tubal Pregnancy.—DR. H. D. V. PRATT, JR., of Elmira, described a case, and said it was the only one on record of retro-uterine pregnancy where the cyst containing the fœtus was of such size as to cause complete obstruction of the bowel by pressure, for the relief of which its removal was demanded, the operation resulting in complete restoration of the patient. Electric puncture was made through the upper and posterior vaginal wall, through which the child was extracted. The placenta came away eight days later.

What are the Rational Limitations of Intra-uterine Therapeutics?—DR. A. F. CURRIER, of New York, in a paper on this subject, divided his cases into two classes, those of diseases of the cervix and those of diseases of the body.

The conditions of the cervix requiring therapeutic measures were subdivided into those of non-traumatic congestion, traumatism, infection, and malignant degeneration. Some of these were suitable to treatment by astringents (including electricity), others to the curette, others to plastic operations, and still others to more extensive removal of tissue.

Therapeutics of the Mucous Membrane of the Body.—These required entirely different considerations. The diagnosis was often very difficult. He divided intra-uterine therapeutics as follows: irrigation; solutions, pastes, and powders; treatment by the curette. He had discarded the stem pessary because likely to do harm.

No such Disease as Endometritis.—DR. T. A. EMMET did not believe in endometritis, and was opposed to intra-uterine applications.

DR. COE had recently lost one of his most important cases by intra-uterine medication, and was coming around to Dr. Emmet's views.

DR. CURRIER thought endometritis could not be denied to exist, when by that way alone an acute gonorrhœal inflammation could pass to the tubes.

Remarks on the Use of the Uterine Curette.—DR. WALTER B. CHASE, of Brooklyn, in a paper urged the use of the curette for removal of the placenta in miscarriage, in conditions of puerperal septicæmia, retained placenta, or decomposing blood-clot; also for scraping away hypertrophic tissue of the endometrium following labor; also for removal of hypertrophic fungosities.

The paper was discussed by Drs. Currier and Jewett.

Malignant Disease of the Corporeal Endometrium.—DR. H. C. COE read the paper, which will appear in a future issue.

It was discussed by Dr. Currier.

The Indications for Operation in Diseases of the Uterine Appendages.—DR. EGBERT H. GRANDIN read the paper, the first part of which showed the abuses of the so-called Tait operation, which was introduced in this country in 1882. He believed the time was more than ripe when a sharp line should be drawn between cases which could only be relieved by an operation and those in which comfort at least would follow non-operative measures. He was convinced that frequently we could save rather than mutilate. By mutilation was meant cases where slightly thickened ovaries, slightly thickened tubes, or tubes containing a little cloudy serum were removed.

The vast statistical data was of little value, for being mostly of hospital cases the histories were not followed up.

Physical signs of disease of the ovaries demanding removal could scarcely be determined by the pathologist, much less by the general operator. Nor were the symptoms alone reliable in deciding on the question of operating.

When to Operate.—He was in favor of removing cystic ovaries when the tumor was observed to be increasing in size. It was not so easy to say when the tubes should be removed. The cases might practically be divided into those of catarrhal salpingitis, hydrosalpinx, and pyo-salpinx. Simple catarrhal salpingitis rarely, if ever, demanded laparotomy.

But in the other two affections there was a real tumor. If the fluid could be made to discharge into the uterus, there was no necessity for immediate laparotomy. But if local treatment did not cause diminution of the tumor, and there appeared to be danger in allowing it to remain longer, it should be removed. In pent-up purulent accumulations within the tubes there should be no hesitation in operating. The question of the propriety of tapping the tubes and treating them in the manner suggested by Dr. Polk after opening the abdomen, had not yet been decided upon. In his own experience the tendency in undoubted pyo-salpinx had been to progress from bad to worse.

Case of Pyo-salpinx, with Spontaneous Recovery.—Dr. Ralph Waldo related a case of pyo-salpinx in which the pus discharged a number of times into the uterus, the woman finally recovering from her symptoms and the tumor without an operation. He had also known a number of cases of salpingitis, due to gonorrhœa, recover without an operation.

Dr. Talbot related a somewhat similar case.

Afternoon Session.

World's Fair Committee.—Dr. Morris J. Lewis sent a resolution, read by the secretary, asking the appointment of a committee of nine, to report at the next meeting, on the propriety of holding an International Medical Congress in 1892, under the auspices of the State Medical Society.

The resolution was referred to the following committee of five: Drs. M. J. Lewis, A. M. Phelps, W. B. Chase, Eugene Beach, and A. Vanderveer.

Nominating Committee.—First District, C. C. Rice; Second District, Thomas S. Dawes; Third District, Herman Bendell; Fourth District, A. W. Suiter; Fifth District, H. H. Dean; Sixth District, W. W. Crandall; Eighth District, M .S. Mallory; Member at Large, B. F. Sherman.

Treasurer's Report. — Dr. Porter read his report, which showed a balance in the treasury of $390.84.

Acute Dacryocystitis.—Dr. David Webster said his reason for reading a paper on the subject of dacryocystitis, or inflammation of the lachrymal sac, was the fact that a considerable number of cases entered the hospital which the general practitioner had mistaken for facial erysipelas. But in dacryocystitis the principal swelling and tenderness was immediately over the site of the lachrymal sac; in facial erysipelas there was no more swelling here than over the rest of the inflamed surface. There was greater fever and prostration, though perhaps less pain, in erysipelas. In dacryocystitis there was likely to be a history of "running over of tears." The treatment was by opening the pus-sac between the caruncle and inner canthus. Afterward bathe frequently in hot water.

Prompt Recognition and Treatment of Syphilis of the Brain.—Dr. J. Leonard Corning read a paper with this title. He said that syphilitic affections of the nervous system were infinitely more susceptible to treatment early than later on. Hence the necessity for early diagnosis and treatment. Persistent violent headache was a chief symptom of early syphilis. Many patients complained very early of vertigo, sensory or motor derangement, derangement of sight or speech. Sometimes spasms began in one group of muscles, and might become converted into general convulsions.

Dr. David Webster said usually the condition of the eye due to syphilis of the brain consisted of optic neuritis and paralysis of the ocular muscles, but recently he had seen one case of paralysis of the sphincter iridis in consultation with Dr. Corning. The symptom disappeared under large doses of iodide of potassium.

Spectroscopic Examination of the Blood in Certain Eye Diseases.—Dr. Lucian Howe, of Buffalo, read a paper and demonstrated the use of a modified Hénocque spectroscope by which the blood could be easily examined, showing the amount of hæmoglobin contained and its bearing upon certain affections of the eyes. He thought it could be demonstrated that the condition called by the Germans scrofulous or phlyctenular conjunctivitis was dependent upon anæmia. The treatment should be directed accordingly.

Cataract.—Dr. Francis Volk in this paper gave the results of twenty cases, demonstrating the value of his speedy methods of giving exit to the lens in cataract operations, which he began the use of over two years ago.

It prevented prolapse of the iris at the time of the operation and made extraction easy. The results compared favorably with those obtained from other methods. The special instrument employed he called the iris retractor. It involved no special dangers, and among other advantages lessened risk of prolapse of the vitreous.

Dr. Lucian Howe objected to the method, on the ground that no instrument should be introduced into the eye unless quite necessary.

A Case of Encephalocele Resembling Degeneration of the Lachrymal Sac, read by Dr. William F. Mittendorf, will appear in a future issue.

Treatment of Eczema in Elderly People.—Dr. L. D. Bulkley read this paper. Eczema presented special features according to the age at which it made its appearance. Very commonly, however, it was due to anæmia, whether it occurred before puberty, in those of middle age, or in elderly people. This statement was particularly true in the last-named class of patients. There was likely to be imperfect bowel and kidney action. Most of these cases showed the disease only in later life. Tonics were indicated. The bowels should move regularly once a day.

When diuretics were called for he preferred acetate of potassium to the citrate. Arsenic was seldom valuable. Alcoholics had usually better not be given. Local applications were useful, but the general measures referred to must be carried out.

Dr. Sherwell, of Brooklyn, Dr. Curtis, of Albany, and Dr. Fox, of New York, made remarks on the necessity of taking into consideration the condition of the general system and that of special functions in treating eczema in elderly people.

An Original, Simple, and Effective Method of Treating Scabies.—Dr. Samuel Sherwell, of Brooklyn, described his method of treating scabies, which consisted in the use of sulphur in a different manner from that in which it was commonly employed. The patient was directed to rub without violence dry precipitated sulphur where the lesions were most manifest once a day, preferably at night, sprinkle a small amount of the same powder on the bed sheet; take a simple bath with soap and water twice or three times a week, making at the same time total change of clothing.

Sulphur used in this way was not disagreeable, as were ointments, etc.

A Diagnostic Point.—In cleanly people one was most likely to find excoriations from scratching in men on the

dorsum of the penis, back of the glans; in women, below the nipple and where the corset made pressure.

Evening Session.

The Thomas Hip-splint.—Dr. John Ridlon, of New York, exhibited and described this splint. It was claimed for it that it was simple, easy of construction, inexpensive, easily applied, not readily broken; being a posterior splint, it gave better fixation, if possible, than the lateral or anterior splints; that it left the minimum of deformity.

Immobilization Necessary.—To prevent inflammation, suppuration, and anchylosis, it was desirable to perfectly immobilize the joint.

The Question of what Produces and what Prevents Anchylosis of the Joints.—Dr. A. M. Phelps related in this paper some experiments with immobilization of limbs in dogs. He also gave some statistics of results of treatment of joint affections, some by the method of motion and others by immobilization. His conclusions were that a normal joint would not become anchylosed by simple immobilization for five months; that motion was not necessary to preserve the joint normally; that anchylosis during treatment of diseased joints was not due to prolonged rest, but to pathological causes; that if in immobilizing a joint intra-articular pressure was produced, disease of the head would result; that atrophy of the muscles would follow prolonged immobilization. He therefore advocated fixation in the treatment of inflamed joints, and overcoming intra-articular pressure.

A Case of Tubercular Lesions throughout the Intestinal Tract not Recognized during Life.—Dr. V. P. Gibney read the history of the case of a boy, about twelve years of age, who was in the hospital eight months for joint disease. He finally died, rather suddenly, of miliary tubercles of the lungs. The autopsy showed marked tubercular lesions throughout the intestines, notwithstanding the fact that there had been no symptoms whatever pointing to such lesions during life.

The lengthy discussion which took place on these three papers revealed some difference of opinion regarding the best instrument for use in obtaining fixation of the inflamed joint, for nearly all the gentlemen were opposed to treatment permitting of motion.

Fifty Cases of Fracture of Elbow.—Dr. Charles A. Powers, of New York, recited experience, with treatment, of fifty cases of fracture of the elbow-joint, in which absolute immobilization was carried out from three to seven weeks, active motion alone being practised subsequently. All the patients recovered, with a useful, non-anchylosed joint.

The Pendent Limb in the Treatment of Joint Diseases of the Lower Extremity.—Dr. A. B. Judson called attention to the anatomical features of the pelvic bones, which make the perineal region a better place for the application of a mechanical support than the axillary region, where the brachial and axillary vessels and nerves make the use of crutches painful and awkward. For cases of long-standing joint disease of the lower extremity he advocated the use of the ischiatic crutch, with a high sole under the well foot. He exhibited an inexpensive *sabot*, designed to take the place of the cork sole commonly worn on the well foot in the orthopedic treatment of joint diseases of the lower extremity.

Statistical Paper on Club-foot.—Dr. W. R. Townsend, of New York, read a statistical paper on "Club-foot." It contained an analysis of 2,386 cases seen at the Hospital for Ruptured and Crippled, New York, during the past nineteen years. Of this number 915 were corgenital and 1,471 non-congenital. Of the congenital, 567 were males and 348 females. Of the non-congenital, 744 were males and 727 females. Of both classes 1,311 were males and 1,075 females.

He also presented tables showing the frequency with which the deformity was found in maternity hospitals, as compared with all the births and with other congenital deformities, and showed the proportion of all cases to other deformities as met with in orthopedic hospitals. In congenital club-foot the most frequent form was equino-varus, and both feet were more frequently affected than one and the right more often than the left. The next most frequent forms were varus, valgus, and equinus, the rarest being calcaneo-varus. About seventy-six per cent. of the congenital cases in males were equino-varus, about sixty-seven per cent. in females. Of the non-congenital forms the paralytic, resulting from polio-myelitis, was most frequent, equino-varus, equinus, and calcaneus being most often met with.

Of 581 cases of flat-foot 283 were males and 298 females, both feet being most frequently affected. Other tables were presented, showing the exact number of each variety. Also, analysis of tables by Duval, Lanelogue, Hagen, Roberts, Detmold, Mutter, etc.

Second Day, Wednesday, February 5th — Morning Session.

Representation from Voluntary Medical Societies.—Dr. Simmons read the report of the Committee on By-laws, in which it was recommended that incorporated voluntary medical societies be entitled to send one delegate to the State Society. The recommendation was adopted.

Report of Committee on Hygiene.—Dr. E. V. Stoddard read the report. It recommended a change in the composition of the health boards of the State; that the unit of territory be changed to the county instead of the town or village.

This suggestion of the committee was opposed by Dr. Louis Balch, secretary of the State Board of Health, and the subject was referred back to the committee that it might confer with the State Board of Health.

The New By laws.—The Society went into committee of the whole, to consider the proposed new By-laws. A number of changes were made in the old By-laws, few of marked importance. A new Finance Committee was established, composed of the president, secretary, and treasurer, to consider matters involving money expenditure.

The proposed change regarding nominations by the Nominating Committee was referred to a special committee to report back at this meeting. The new list of By-laws was otherwise adopted by the Society without material change.

Fever and its Treatment.—Dr. A. L. Loomis read the paper. Fever could be divided chemically into two classes of cases, those of nervous and those of hæmic origin. The question was now being asked whether all fevers were not due to some form of infection. The tissue-changes taking place in fever were formerly regarded as the direct result of high temperature. But recently it had been demonstrated that these changes took place sometimes in connection with low fever.

Effect of Fever on the Nervous System.—The dangerous effects on the nervous system had been overestimated, although it had been determined that there was a point at which increase of the bodily temperature caused collapse and even speedy death. This temperature, however, was seldom reached in fevers.

Fever a Complex Process.—Fever, he said, was a complex process in which high temperature was not the most important factor. Those who believed fever in itself was injurious would make freer use of antipyretics than those who took the opposite view. If high temperature was readily reduced by antipyretics, and the patient be rendered more comfortable, they could be employed with advantage. But if powerful antipyretic measures alone reduced the temperature, and had a temporary effect, their use being followed by great nervous depression, they should be omitted.

Two Divisions of Antipyretics.—Antipyretics were di-

vided into two classes, the first being the application of cold, the second being drugs administered internally. The latter most in use at present were antifebrin, antipyrin, and phenacetin.

Cold applied to the body was an important nervous sedative, and played an important part in controlling tissue-changes observed in fevers. He regarded this action as of greater importance than simple reduction of the temperature. But its routine use in any disease was to be deprecated. It should never be employed simply to reduce the temperature unless this passed the danger-point—say 104° F. In typhoid fever he applied the cold coil over the abdomen.

Internal antipyretics were divided into two classes: those which influenced primarily the thermogenic nerve-centres, and those which rendered inert the pyrogenic substances which entered the blood. Heroic doses were objectionable. Treat the patient, not the disease, he said.

Functional Albuminuria, with Three Years' Observation of a Case.—Dr. Eli H. Long, of Buffalo, read the history of the case.

Isolation of Consumptives.—Dr. P. H. Kretzschmar, of Brooklyn, in this paper made some criticisms upon certain measures which had been proposed in isolating the phthisical, in order to prevent spread of the disease, showing their inefficiency and undue severity. He was glad, however, to see a disposition in France to adopt the view that consumptives found greatest probabilities for a cure within sanitaria and not in so-called open health-resorts. But the great danger of the spread of the disease was through the sputum which became dry and floated in the atmosphere.

A Sputum-flask.—He therefore took pleasure in exhibiting and endorsing the blue flask invented by Detweiler, of Germany, for use by consumptives, to be carried in the pocket.

Dr. W. P. Northrup thought Trudo's flask better than the one presented, since the paper containing the sputa could be burned.

Dr. Evans advocated prophylactic measures, overcoming, if possible, constitutional predisposition.

Dr. W. P. Northrup read a paper on "Disinfection of the Clothing of the Physician and Patient in Infectious Diseases," which will appear in full in a future number of the Medical Record.

Coincident Geographical Distribution of Tuberculosis and Dairy Cattle.—Dr. E. F. Brush, of Mount Vernon, in this paper showed that tuberculosis coincided with the distribution of dairy cattle throughout the world, and drew the inference that it was through cattle that the disease was perpetuated in man, and that if a people ceased to raise cattle for dairy purposes it would in time disappear.

Afternoon Session.

Relating to Membership.—On motion of Dr. Roosa a resolution was passed granting all the privileges of active members to such permanent members as had paid into the treasury in the form of dues fifty dollars.

Address on Surgery.—Dr. Alfred Mercer, of Syracuse, vice-president of the Society, read the address. Since he began practice anæsthetics had been introduced, and he pictured the difficulties under which surgeons performed amputations and other major operations at that time.

Antiseptics or Cleanliness.—He also traced the progress of antiseptics in surgery, and said we had arrived at the time when the profession was divided in opinion on the question whether the advantages of methods of treating wounds to-day over methods which prevailed before Lister came on the field were due to antiseptics or to rigid cleanliness? Treatment by antiseptics and by simple but strict cleanliness both gave statistics equally gratifying; but, by the former method, care should be taken not to use an amount of poisonous drug to do injury.

Some of the antiseptic methods had rightly been discarded as useless, if not positively harmful.

History of 255 Cases of Excision of the Superior Maxilla.—Dr. J. D. Bryant, of New York, read the paper. Of these cases only two occurred in his own practice.

Conclusions.—1, Excision of the superior maxilla is not a dangerous operation; 2, that, contrary to general belief, excision of both maxillæ is not a specially dangerous operation; 3, that while severe hemorrhage is not frequent, still its effects are to be feared more than any other result of the operation; 4, removal of the upper jaw for cure of bony and fibrous tumors, or removal of naso-pharyngeal polypi, is followed frequently by severe and even fatal hemorrhage; 5, that ligation of one or both external carotids is a safe and commendable procedure when severe hemorrhage is apprehended as a result of operations on the area of their distribution; 6, that ligature of one or both of these arteries may delay the return, or hinder the development of the morbid growth; 7, that, all things being equal, ligation of the common carotid for the purpose of controlling the circulation of the external, is unwise and unwarranted.

Report of the Committee on the President's Address.—Dr. Potter, Chairman of the Committee, read the report. They reported favorably on the recommendations contained in the address, and they were adopted in resolutions, except that part relating to making presidents of the county societies *ex-officio* members of the State Society.

It was deemed advisable that action be postponed on this recommendation until another year. The resolutions included the bill adopted by the Society last year, providing for a State Board of Medical Examiners, and now awaiting action by the Legislature.

Diagnosis and Treatment of Fractures through the Anatomical Neck of the Humerus.—Dr. Charles A. Powers, of New York, in this paper refuted the general teaching of the books that this was a rare location for fracture, and that the diagnosis was very difficult. Moreover, his cases disproved the assertion that bony union rarely resulted. Between 1878 and 1888 there had been eighty-two cases recorded in the dispensary of the New York Hospital. The diagnosis in these cases was confirmed by two or more skilled surgeons. It was shown by crepitus, by rotation of the greater tuberosity unaccompanied by rotation of the head of the humerus. There was also swelling, sometimes ecchymosis and tenderness.

Treatment.—This was simple, and secured complete confinement. This was best done by a plaster-of-Paris splint, worn four to seven weeks. Ultimate complete, or nearly complete restoration of function could be expected.

Reflections upon some Cases of Nephro-lithotomy.—Dr. E. L. Keyes read this paper, which is reported in full on p. 141.

Report of Five Cases of Supra-pubic Cystotomy for Tumors of the Bladder and Vesical Calculi.—Dr. A Vanderveer, of Albany, sent the paper, which was read by Dr. Hailes. The first case was for removal of a papillomatous growth, supra-pubic cystotomy proving a much more satisfactory exploratory operation than the perineal operation, which he had done previously on this patient

This method he thought much the most satisfactory in the other four cases also—one of tuberculous ulcers in the bladder, two of sacculated stone.

A Rarely Described but Common Form of Cystitis in Women.—Dr. Robert T. Morris, of New York, described a cystitis in women due to an excoriation and fissure of the sphincter of the bladder, a condition more common than fissure of the anus. It caused tenesmus

and great inconvenience. Treatment was by dilatation with the little finger, cocaine if necessary, the use of the scalpel introduced between the blades of a speculum, and catgut suture. In one case he had performed supra-pubic cystotomy. The bladder was washed with boro-glyceride. one ounce, and glycerine, three ounces, mixed. Another important measure was vaginal support by wool tampon. Pepsin digested mucus and blood-clots within the bladder.

Extension Splint for Treatment of Fractures of the Leg, Arm, and Forearm.—Dr. P. R. Furbeck, of Gloversville, presented a light extension splint for this purpose, made of metal. With it was used the weight and pulley, to overcome spasm of the muscles.

Operative Treatment of Erysipelas. — Dr. Willy Myer, of New York, described several cases of erysipelas, spreading from wounds, which he had cured, preventing the spread of the disease by the method, more generally employed in Germany, of making numerous cross-incisions into the surrounding healthy skin deep enough simply to draw blood. The patient was placed under ether. He thought it was the duty of the physician to employ this method in all cases, particularly of a threatening character.

Dr. S. A. Fox, of Brooklyn, had, when in Charity Hospital, seen one or two hundred cases of erysipelas, sent there from other institutions, which they treated by the old-time method of lead and opium wash locally, iron and quinine internally, and milk diet. He did not remember a single death.

Drs. A. Jacobi and R. T. Morris thought the scarification method deserving trial.

Evening Session.

The Anniversary Address.—In his anniversary address Dr. Daniel Lewis treated mainly of the relations existing between the profession and the public, but in doing so had much to say of subjects also of particular interest to the profession.

Medicine not an Inexact Science.—In the many discussions regarding the proper place of medicine among applied sciences, both physicians and laymen yet characterized it as an inexact science. There were many reasons, which he cited, showing that designation to be unjust. This was certainly true if we accepted the definition of science as "knowledge duly arranged and referred to general rules and principles on which it is founded." Astronomy, navigation, etc., were little more exact sciences than medicine. One of our chief aims should be to secure proper recognition of the scientific exactness which formed to-day the basis for all successful applications of the healing art.

Radical Defects in Medical Education.—In this connection the importance of preliminary general education was emphasized.

Sectarianism.—There was no longer any reason for the existence of sectarian schools of medicine. Every medical school should teach everything of value in any other school.

There was a homœopathic school in New York which taught every form of materia medica or therapeutics practised by any school. If that school would drop its sectarian name it would become more nearly the model school than any other college in the State. There could be no real antagonism in science.

State Medical Examining Board.—One chief necessity for this was to control foreigners practising in the State, not a few of whom had not a knowledge of the English language. Objections to such a board were shown not to be well founded.

Relations of the Profession to the Laity.—These were not what they should be in all respects, and some suggestions for rendering those relations more harmonious were made.

Third Day, Thursday, February 6th—Morning Session.

Report of Committee on Legislation.—Dr. Roosa read the report, which related chiefly to matters already known to the profession concerning the Board of State Medical Examiners, etc. In the event that the bill before the Legislature could not be passed in its present form, the Committee was authorized to accept a change, leaving the appointing of the members of the Examining Board to the Regents of the University.

Method of Electing Officers.—After considerable discussion it was voted to let the old by-law remain.

Nominations.—The Committee presented two names for President, W. W. Potter, and Lucian Howe, of Buffalo; also two names for Vice-President, Drs. Pilcher and G. R. Fowler, of Brooklyn. Dr. Fowler telegraphed withdrawing his name. Dr. Potter received forty-three of the sixty votes cast and was declared elected *President*. Dr. Curtis was re-elected *Secretary*, and Dr. Porter *Treasurer*. *Committee on By-laws* — Drs. Laurence Johnson, A. R. Timmons, and H. C. Curtis. *Committee on Hygiene* — Drs. E. V. Stoddard, A. N. Bell, C.W. Hamlin, J. P. Creveling, W. H. Baily, W. C. Baily, and E. F. Brush. *Committee on Legislation* — Drs. D. B. St. John Roosa, Daniel Lewis, and M. J. Lewis. *Committee on Ethics*—Drs. A. Jacobi, A. Matthews, and H. R. Hopkins. *Committee on Prize Essays* — Drs. G. F. Shrady, Daniel Lewis, and Eugene Beach. *Committee on Arrangements*—Drs. S. B. Ward, E. L. Partridge, and E. S. Merrill. *Committee on Publication*—Drs. F. C. Curtis, Charles Cary, O. B. Douglas, and C. H. Porter. *Honorary Members*—Drs. George J. Engelmann, of St. Louis, and R. J. Levis of Philadelphia. *Eligible to Honorary Membership*—Drs. W. H. Hingston, of Montreal, and H. C. Wood, of Philadelphia.

A number of delegates were elected to State and other societies.

Vaccination Bill.—The Society, on motion of Dr. Balch, endorsed the bill before the Legislature, to prevent the spread of small-pox during epidemics.

Dr. S. D. Powell read an interesting paper on "The Treatment of Diseases of the Rectum, based upon Anatomical Study."

Other papers on the programme were read by title.

After the passage of the usual resolutions of thanks the Society adjourned.

The Angle of the Neck of the Femur.—In text-books on human anatomy we are taught that the angle formed by the neck of the femur with the shaft becomes lessened as years advance, the level of the head of the bone being consequently lowered. Professor Humphrey has shown that this theory is inaccurate. After careful observations, recorded in the *Journal of Anatomy and Physiology*, he has come to the conclusion that the angle formed by the neck of the thigh-bone with the shaft varies considerably in different persons at any given period of life. It is smaller in short than in long bones, and it is also most likely to be small when the pelvis is wide; the combination of these two conditions rendering it usually smaller in women than in men. The angle decreases during the period of growth, but after growth has been completed it does not usually undergo any change, even if life be continued to extreme old age. Some change may take place in exceptional cases, but, as a rule, the angle remains the same from the adult period till death, at whatever age death may occur. If, during the growth, the limb be relieved of the weight of the body, as in the bedridden state, in paralysis, or in a stump, the angle of the neck with the shaft usually retains the open form of early life, or may even become wider. Professor Humphrey's conclusions will interest the surgeon, and must never be overlooked in cases where the age of a subject at death has to be estimated by examination of the thigh-bone.—*British Medical Journal.*

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, January 27, 1890.

ALEXANDER S. HUNTER, M.D., PRESIDENT, IN THE CHAIR.

Relations of Maldigestion to Functional Nervous Diseases.—DR. WILLIAM H. THOMSON read the paper. He said that as a teacher of materia medica he had long been in the habit of dividing medicines into two great classes, namely, the organic and the functional, the former being those whose special remedial action could never be secured by one dose, but by the accumulated effects of many doses, as bichloride of mercury in syphilis; the latter being those whose entire specific action could be obtained by one dose, as opium. Organic medicines were given for organic disease, and produced no symptoms of their own; functional medicines did nothing but produce symptoms. Organic medicines showed no effects except in disease; functional medicines produced the same effects in health as in disease.

Neurotics do not Cure.—Neurotics belonged to the functional medicines, relieving symptoms but not curing the disease. Structural changes in an organ produced corresponding functional derangement, but the converse did not necessarily follow, that functional derangements must always have their corresponding structural change.

Distinction between an Organ and its Function.—This became apparent when the difference between an organ and its function was clearly apprehended. One could stimulate or retard the working of an organ, as of the lungs, without affecting its structure. The human body might, in this respect, be compared to a steam-engine or a lamp. The function of a lamp was to give off light. This function would be materially modified according to whether the lamp were fed with pure or contaminated oil, although its structure remained unchanged. Thus one could see the error of those who looked forward to the time when the term "functional," as applied to human ailments, should be banished, and a name be given based on the anatomical changes which they hoped would in all cases be discovered.

The Practical Aspect of the Question.—If every functional nervous disease was due to a distinct morbid change in nerve-cell or fibre, then we must continue to search in the nerve-cell or fibre for that change and for its causation, and be guided in the treatment accordingly. If, on the other hand, some of these functional nervous disorders were unattended by alteration in the nervous structure, as a poor light might result from bad oil in a good lamp, then we must look elsewhere for the cause and remedy.

Symptoms Distinguishing Functional from Organic Nervous Diseases.—The symptoms of no structural organic nervous disease were ever truly intermittent. For instance, the hemiplegic might show a greater degree of weakness one day than another, but he was hemiplegic nevertheless. Not so with functional nervous diseases. The most skilled specialist might not be able to tell that a given woman was accustomed to having convulsions, or that a vivacious lady would be prostrated with a headache next day. One was no more likely to find a structural change to account for these facts than to find the structural anatomy of cupidity or benevolence. A truly intermittent disease could have no organic basis in the nervous system. Functional nervous diseases, including epilepsy, were due to afferent impressions. If a tumor within the skull caused epilepsy, it was by an afferent impression, as much as if the afferent impression came from the presence of a tape-worm in the intestine. If the disease manifestations were not intermittent, the presumption was that the case was one of organic disease.

Seeking a Toxic Cause.—Affirming that there were purely functional nervous disorders, without any organic change in the nerves, sufficient even to sometimes prove fatal, what, he asked, were their causes? One direction to which he called attention was that of toxic agents developed within the system—a chemical cause. An example was given in which the chief improvement in the patient's condition resulted from diet. The author went on to quote from different chemists and physiologists, proving the development of toxic agents in the intestine, urine, etc., agents which produced effects like those of morphine, quinine, etc. Many of them were capable of causing headache, muscular languor, depression of the heart, great depression of spirits, lowering of the temperature, and convulsions. Usually we were protected from self-poisoning through the function of the liver, and among the most efficient antiseptics were the digestive juices of the alimentary tract. This double function of the digestive juices was too often overlooked in combating disease. Derangement of the stomach and bowels, of a direct or reflex nature, he thought, preceded the development of the hysterical status in the majority of cases. He had had better success in the treatment of hysteria by medication directed to the alimentary canal for the prevention of toxæmia than he had ever before obtained from the use of old-fashioned antispasmodics. The same was true, in the main, of migraine. The same principle applied largely to the treatment of epilepsy, but he reserved the elaboration of this idea for a future occasion.

Charmed by Eloquence.—DR. A. JACOBI, being requested to open the discussion, said he was so much under the influence of Dr. Thomson's varied knowledge and eloquence that he found it difficult to discuss his paper or object to his conclusions. It had frequently taken him a few minutes to convince himself that this gentleman was wrong in a number of positions he had assumed. He had not the slightest doubt that he was wrong on many points to-night. For instance, he had made a positive distinction between functional and organic diseases, and it must be admitted that a number of his examples were exceedingly well chosen and not easy to disprove. But a large number of symptoms once recognized as functional diseases had subsequently been found to be due to organic changes, and it might prove so of some of the diseases which Dr. Thomson now regarded as purely functional.

Epilepsy an Organic Disease.—Epilepsy, he thought, was an organic disease; the lesion had been shown in many cases, and the very fact that the attacks returned from time to time made it sure, in his opinion, that there was a change in the nerves. Anæmia of the brain would produce an epileptic attack, the change in the circulation being the proximate cause, while the original, remote cause might be unknown.

Functional and Organic Medicines.—Such a division of medicines might be convenient in lecturing to students, but was, he thought, more or less arbitrary. Arsenic, it had been claimed, gave rise to tangible changes, while opium did not. But, he asked, what caused morphinism if tangible effects were not produced? Digitalis, by increasing the circulation in general, and of the heart in particular, changed the nutrition and produced tangible effects in the heart muscle.

Bismarck's Gout and the World's History.—He said the reader of the paper had viewed the relation between functional nervous diseases and maldigestion chiefly from the nervous side. Viewed from the side of maldigestion, many headaches and mental disturbances could be accounted for in this manner. Who did not know of the value of an aperient in relieving congestion of the brain? Much of modern history made by a great statesman depended upon his whims and emotional changes arising from maldigestion and a gouty constitution. The vessels of the brain not being surrounded by muscles to aid the circulation, that organ was most likely to suffer under maldigestion, malnutrition, and malelimination.

Another Classification.—DR. C. L. DANA thought the time would come when the term functional nervous disease would be dispensed with, and a division be made into or-

ganic and degenerative affections, a few cases, perhaps, being left under such terms as toxic, hyperæmic, etc. Under degenerative he would include such affections as epilepsy, paralysis agitans, given types of hysteria, some forms of tic, and spasmodic and mental disorders which approached insanity. By using the term degenerative we avoided the inference that the disease had no organic basis. There was, perhaps, want of nutritional power, or lack of full development of the cells which controlled or regulated the function.

The Toxic Element.—The toxic element would probably be shown to play an important rôle in the causation of the degenerative diseases, but practically he had not found treatment based on this view of much value in any considerable number of cases of epilepsy, neurasthenia, etc. In one case, however, of *petit mal* and *haut mal*, in a boy, with frequent recurrence of the attacks, nothing was done but enforce a rigid diet, and for three months the boy had been without an attack.

Neurasthenia.—Severe cases of these nervous troubles were more likely to yield to treatment based on the autotoxic theory in the middle-aged rather than in young or elderly subjects.

Dr. J. L. Corning endorsed the views of the author that there were many functional nervous disorders in which we could find no organic basis, and in which the chemical cause seemed to be the true one. But regarding the means of antagonizing those causes we as yet knew little. We did know this, however, that treatment based on physiological principles gave the best results. It included diet, sleep, exercise, change of climate, etc.

Influence of the Sympathetic System.—Dr. George W. Jacoby thought the chemical theory only partly explained the cases under discussion. In some the mental state preceded the maldigestion, and the influence he believed was exerted by way of the sympathetic system. He tried first to determine whether the cause was originally in the stomach or in the central nervous system, and was guided in his treatment accordingly. When the former was the case he had found that pressure over the solar plexus nearly always caused pain.

Dr. M. Putnam-Jacobi remarked, as possibly throwing some light on this subject, that a functional change sometimes took place in an organ or nerve-centre distant from the organic lesion. A tumor in the brain, for instance, might be the cause of sudden death by arrest of function in the respiratory or cardiac centres, although the tumor had no immediate connection with those centres.

Physical Changes Attend all Physiological Action.—This fact had also been demonstrated, and showed the necessity for attention to disassimilation as well as assimilation, and the necessity for sweeping out the fatigue products.

Dr. Grace Peckham thought that Dr. Thomson, starting in the circle in one place, had interestingly shown the relation of maldigestion to functional nervous diseases. Beginning at another place, one might show the relation of functional nervous diseases to maldigestion. He had found benefit from medicines directed against maldigestion. She, on the other hand, had found in the other class of cases, or those of mixed or unknown nature, that medicines directed to the nervous system gave good results.

Dr. Thomson closed the discussion, showing wherein there was real or only apparent disagreement between himself and the speakers.

Atropine in Paralysis Agitans.—Dr. Moretti, of Rome, read a paper recently before the Lancisi Society, in which he reported some excellent results from the use of atropine in the treatment of paralysis agitans. One of his patients was the painter Vertunni, who had been obliged to abandon his occupation, but had improved so greatly under the use of this drug that he was able to go back again to his painting.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.

FOUR HUNDRED AND NINETY CASES OF PNEUMONIA—OSTEOCHONDROMA OF THE HUMERUS TREATED BY REMOVAL OF UPPER EXTREMITY, TOGETHER WITH SCAPULA AND PART OF THE CLAVICLE—THE MECHANISM OF SUSPENSION IN LOCOMOTOR ATAXY—THE INFLUENZA EPIDEMIC—THE NATIONAL LEPROSY FUND.

London, January 18, 1890.

At the Medical Society of London, on Monday last, Dr. Churton, of Leeds, read a paper on pneumonia based upon a study of 490 cases; of this number, 273 were men, 106 women, and 111 children under fifteen. So far as could be made out under the microscope, the alveolar walls were affected to but a slight extent, even in the acute affection, and he attributed the exudation of the fibrinous material to interference with the epithelium, which, under normal circumstances, prevented its taking place. He emphasized the simplicity of the discoverable anatomical facts of pneumonia. The morbid conditions which gave rise to pneumonia were also capable of giving rise to pleurisy, pericarditis, etc. He thought it probable that a drug or method of treatment might hereafter be found which would (in the early stages at least) do for the pneumonic exudation, and for the tissues, what the salicylates now did for the rheumatic exudation and the tissues permitting it. A short discussion followed the reading of Dr. Churton's paper. The President (Dr. Theodore Williams) expressed his conversion to the belief that pneumonia was a blood and not a lung disease, resembling in its course the zymotic diseases. He had often examined the sputum for the micrococcus, but with only limited success. He remarked that in their endeavor to ward off cardiac failure, practitioners were very apt to overstimulate the heart so as positively to depress it. Dr. Maguire said that in addition to the ordinary division of pneumonic cases into croupal and catarrhal, it was necessary to distinguish between the epidemic and sporadic. He had found the micrococcus almost invariably present in the lungs in the epidemic, but only occasionally in the sporadic form; it was not much use searching for it in the sputum, which contained another micrococcus very difficult to distinguish from it. He thought it still doubtful whether the micrococcus was really at the root of the disease.

At the last meeting of the Medical and Chirurgical Society, Mr. Thomas F. Chavasse, of Birmingham, read notes of a case of osteochondroma of the humerus. He had removed the arm *en masse*, the scapula, and also a portion of the clavicle. Secondary hemorrhage occurred on the seventeenth day, and necessitated ligature of the subclavian artery in the second part of its course. The patient recovered and was now living, a year having elapsed since the operation. Mr. Chavasse's removal of the clavicle received some adverse criticism; both Mr. Christopher Heath and Mr. Barwell regarded it as unnecessary. Mr. Hulke could not understand why the scapula had been removed, as there was no clinical evidence of either that bone or the muscles attached to it being implicated. Mr. Chavasse, in replying, contended that removal of a piece of the clavicle was necessary, so as to secure both artery and vein at once, for there was great danger of death from the entrance of air into the veins. The scapula was removed because no skin flap could be obtained without doing so. His original diagnosis of the case was that it was one of an enchondroma which was undergoing some sarcomatous change.

Dr. James Cagney then read a paper on "The Mechanism of Suspension in Locomotor Ataxy." He opposed the assumption that it was possible to stretch the spinal cord or the nerve-roots by suspending the weight of the body from the head or elsewhere, and that such a stretch-

ing (if it were possible) could produce any change in the lesion of tabes. From observations made, both on living and dead bodies, he believed the effect of suspension was to shorten the distance between the first dorsal and last lumbar spines. There was usually an elongation of that surface in the cervical region, which, however, was less than the shortening elsewhere. Measurements on the dead body showed that at the same time the anterior surface of the vertebral column was considerably elongated throughout, slightly in the neck, and most in the dorsal region, but it was contracted or unchanged in the lumbar region. The effect of suspension was to straighten out the curves, and this in a different manner in the different regions. The effect on the cord or its membranes would vary according as they lay in the concavity or on the convexity of a curve, and with the manner in which the curve tended to straighten under the influence of the weight of the body. A distinction must be made between the cord and its membranes. Relaxation of the membranes implied relaxation of the cord, but tension of the former did not necessarily imply stretching of the cord. Dr. Cagney thought the facts cited proved that a total shortening of the spinal canal was obtained in suspension. In the lumbar region the cord was unaffected, or slightly relaxed; in the cervical region the membranes were somewhat stretched. The dorsal region was of chief importance, because the dorsal curve was the most extensive, and because the lesion in tabes was, for the most part, contained in it. Here the cord lay upon the convexity of the curve, and by stretching this post mortem the bodies of the vertebræ were separated anteriorly, their posterior borders were pressed together, while the neural arches and spinous processes were approximated. Since, however, the neural arches enclosed the spinal cord, the latter was also shortened. This effect was produced by gravity, and was further aided by muscular tension during life. Measurements showed that the shortening of the line along the spinous processes was greater in the living than in the dead subject. He inferred that suspension caused a relaxation, not a stretching, of the spinal cord, and that such a relaxation might affect a sclerosis in two ways, viz.: 1, mechanically, by breaking down adhesions; 2, by removing impediment to the circulation. The splanchnics were the only nerve structures which could be seen to stretch in the process, and some of the accidents in cases of suspension were referred to this cause. Dr. Cagney contended that muscular tension was also an effective force, and that a rational method should be based on its application. Suspension from the head was admittedly dangerous and inconvenient; according to his views it was also useless. The best results might be expected from suspension from the axillæ alone, or from suitable gymnastic movements.

The influenza epidemic appears to be abating—in London, at any rate. During its prevalence it has attacked rich and poor alike, and has largely increased the death-rate. Most of the deaths of influenza patients, however, have been due to pneumonia or some other complication.

The Prince of Wales presided at a dinner, on Monday last, in aid of the National Leprosy Fund. Among the speakers were Sir Andrew Clark, Baronet (President of the Royal College of Physicians), the Bishop of London, Mr. Jonathan Hutchinson (President of the Royal College of Surgeons), and the Archbishop of Canterbury. The Honorary Secretary (Sir Somers Vine) announced that the total sum received was seven thousand pounds. It is proposed to found travelling scholarships, should adequate funds be received.

OUR PARIS LETTER.

(From our Special Correspondent.)

THE EPIDEMIC OF INFLUENZA IN PARIS.

PARIS, January 17, 1890.

To the very lucid description given in your editorial in the MEDICAL RECORD of the 4th instant, on the epidemic of influenza as it occurred in New York, the following note, which I have culled from different authorities in Paris, may be added, as it may be of interest to compare your account with that given of the epidemic on this side of the Atlantic. The epidemic of influenza, or "la grippe," as it has been seen in Paris, commenced about the beginning of December last. Like all the previous epidemics, it has passed through two successive periods. In the first, which lasted about fifteen days, the "grippe" reigned alone, generalizing itself with its usual rapidity, emptying the lycées, schools, barracks, and disorganizing the great administrative services, but killing no one, this is said to be the benign phasis. In the second period, following the same rule, pneumonia has complicated the grippe, and the mortality increased suddenly to considerable proportions, this is the phasis of complications. During the first first fortnight, the grippe, disengaged of all accessory elements, was characterized by phenomena which are special to it, viz.: intense aching pains in the loins, sometimes extending all over the body, accompanied with nervous prostration, and fever more or less severe according to the subjects, being particularly severe in children. This condition exists sometimes alone, it is sometimes followed either by gastric troubles or by a rhino-tracheitis. In certain subjects there are produced cutaneous eruptions of a scarlatiniform or rubeolic aspect. These eruptions, which led certain persons to believe that it was the dengue of Syria which invaded Paris simultaneously with the influenza of Russia, have nothing special with the present epidemic. They were noticed in the previous epidemics, and particularly by Recamier in the epidemic of 1803. In the second period pulmonary complications were developed, assuming immediately, as in 1837, an extremely grave character. They present themselves under three principal forms, viz., lobular pneumonia, disseminated or pseudo-lobular broncho-pneumonia, and suffocating catarrh. The municipal weekly report, though very incomplete in some respects, furnishes sufficient elements to appreciate the formidable gravity of these pulmonary affections. The mortality from lobular pneumonia, which in the corresponding week of 1888 was only 67, in the last week of 1889 rose to 346; that from broncho-pneumonia, which in 1888 was only 27, rose to 138. To this may be added 131 deaths from acute bronchitis, 127 from chronic bronchitis, and 140 from congestion and apoplexy of the lungs, making a total of 882 deaths from pulmonary affections, instead of 200, which is the average number in this season. Although the report attributes only 22 deaths to grippe and its sequelæ, it is difficult to believe that the present epidemic has had nothing to do in this formidable augmentation in the mortality from pulmonary maladies.

Acute bronchitis, however acute it may be, and pulmonary apoplexy do not ordinarily pass for fatal affections. Moreover, in generalizing itself, the grippe has struck, like the others, subjects affected with chronic maladies, old persons weakened by age, cardiac and phthisical subjects, etc., and, according to the law established by all classical authors, the patients of this category have succumbed in great numbers. Here again, notwithstanding the defects in the municipal weekly report, in which the cause of death is not indicated in each case, yet, under present circumstances, it has been sufficiently intelligible on this point. For instance, under the head "Senility," there are 73 deaths, instead of 28 for the corresponding week of 1888. Under hemiplegics, there were 81 deaths, instead of 56. The number of cardiacs has been doubled, 123 instead of 65. The same as regards phthisical subjects, from 180 to 200 (the weekly average) the mortality has risen to 421. In fine, the total mortality from all causes for the last week of December amounted to 2,334. It may be remarked that of this total the cause of death was not indicated for 430 cases. There were 3,784 deaths during the month of December, 1888, and 5,969 for the month of December, 1889. The number in excess in the mortality since the

commencement of the epidemic of influenza is therefore more than 2,000. The total of deaths for the first week of the present year is given as 2,683, and during the second week the epidemic will have reached its highest point, as previous epidemics of this affection have ordinarily lasted from six weeks to two months. The present epidemic has manifested itself under three different forms: 1. The nervous form, which sets in suddenly by complete prostration, a high fever, which rises to 101° F. and even 102° F., restlessness, and sometimes a tendency to attacks of syncope. After twenty-four hours all the symptoms subside and a copious perspiration marks the end of the attack. 2. The catarrhal form, which does not commence so suddenly. There is a period of incubation which lasts two days, then the temperature rises by degrees, and fits of coughing are the principal symptom. After forty-eight hours the general state of the patient becomes improved and the fever gradually subsides. 3. The gastric form, which is characterized principally by troubles of digestion. The duration of this form is equal to that of the two others. The treatment generally adopted has been more or less symptomatic, or in accordance with indications, and has consequently been varied. Many drugs have been vaunted as specifics, but they were not long in favor. Even antipyrine was set aside, and the time-honored remedies, such as quinine, ipecacuanha, and opium, were more generally adopted, with some success.

WHOLESALE PRESCRIBING OF MANUFACTURED MEDICINES.

To the Editor of the Medical Record.

Sir: Allow me, through the columns of your paper, to call attention to the wholesale prescribing of manufactured medicines—I do not now refer to patent medicines, of which so much has been said—which, undoubtedly, is growing throughout the profession. Go into any drug store and see the large stock of manufactured medicines they are carrying; drawers upon drawers contain pills, tablets, granules, etc., and hardly a day passes that the stock is not increased. Dr. So-and-so, orders so many pills of X. & X.'s, if the druggist has not got them he sends for them, which, necessarily, causes a delay to the patient; and the druggist, after giving out the desired number, puts the remainder away, and it may be months—yes, years—before he ever has a call for them again; and if that order comes years after, does he get a fresh supply? Why, of course not. Is he going to expend money for something he already has in stock? and if the drug has lost its physiological action so much is added to the misfortune of the patient.

I have seen prescriptions that called for quinine sulphate, or podophyllin, or cerium oxalate, and the druggist instead of compounding the same—as the doctor prescribing it expected—would go to the drawer and take some manufactured pill and give to the messenger waiting. Only a few days ago I saw a lady enter a well-known drug store, and after looking intently at a paper which she held, inquired of the clerk in attendance: "Have you any of X. & X.'s morphine and salol pills?" and, as the clerk was getting them for her, she returned the paper—which was a prescription—to her pocket, where it would remain until wanted again. On another occasion a young man came in and asked for a well-known tonic pill, at the same time reading the ingredients of it from the prescription he held in his hand.

I have asked a number of druggists if they had many such cases, and every one has given me the same answer: "Yes."

I have in my mind a case of an eminent doctor, here in this city, who sent to any number of shops endeavoring to get a certain "dyspepsia tablet," manufactured by a firm miles from New York. True, he could have made out a prescription himself containing the identical ingredients, but no, nothing would do, he must have that firm's tablets. The evil of all this can readily be appreciated; the blame lies principally at the physician's door—though the druggist is not without blame—and there is the place where reformation must commence.

One can hardly understand how a man who has had a good scholarly education, followed by a degree from a first-class medical college, can have so little knowledge of Latin; but such, nevertheless, is a well-demonstrated fact, and only too well known. But now that our colleges are recognizing the benefit of a primary, or entrance, examination, we may hope that hereafter a man who obtains his degree, will go out in the world clothed with a certain amount of the "dead language," and that he may be able to write prescriptions from his brain, and not resort "as a cloak for ignorance," or laziness, to this wholesale prescribing of manufactured medicines.

Yours very truly,

Harry Mortimer Archer, M.D.

14 West Fifty-second Street, New York

VAPOR OF BROMINE IN DIPHTHERIA.

To the Editor of the Medical Record.

Sir: Dr. Manchester's very sensible article on the use of bromine in diphtheria (Medical Record, January 18, 1890, p. 64) recalls the early history of bromine as a therapeutic agent.

The use of bromine vapor was first suggested to me by the late Dr. Middleton Goldsmith, in September, 1861, on purely theoretical grounds. Subsequently it was largely and very successfully used as a disinfectant in the western hospitals of the army, under Dr. Goldsmith's direction, in conjunction with the local application of bromine and of the solution of bromine, in hospital gangrene and erysipelas. See Goldsmith's "Report on Bromine to Surgeon-General U. S. A." 1863, also "Medical and Surgical History of the War," Part III., Medical Volume, p. 673.

I have used bromine vapor in diphtheria, precisely as advised by Dr. Manchester, since the autumn of 1862, with advantage.

A. P. Meylert, M.D.,

Late Surgeon and Medical Director U.S.A.

Las Vegas Hot Springs, N. M., January 22, 1890.

REVISION OF OUR PHARMACOPŒIA AND UNIFORMITY IN DOSAGE.

To the Editor of the Medical Record.

Sir: Being interested by an article which appeared in the Medical Record of January 11, 1890, by H. H. Rusby, M.D., entitled, "The Physician's Proprietary Articles, or Uniform Preparations for our Pharmacopœia—Which?" I thought a few words bearing on the title of my article would be quite apropos. The thoughts expressed by Dr. Rusby I heartily second, but why would it not be best to go down even farther with the revision than he suggests.

The great disparity in the doses of our different fluid preparations, and the large number of these which are officinal, was brought forcibly to my mind when a student of medicine, and I determined then to propose a scheme to the next revising board whereby we might establish a common dose for all fluid preparations, and lessen the number of these preparations.

The duties of the coming Revising Convention, I think are threefold, viz.:

1. Making a standard strength for all medicines (Dr. Rusby's suggestion).

2. Making a uniform, maximum and minimum dose for all fluid preparations.

3. Throwing out all drugs that have been found "wanting," and cutting down the profuse number of fluid preparations of the same drug.

1. Dr. Rusby has discussed this point so thoroughly

that it is not necessary to say anything more on the subject.

2 and 3. In the first place, they should divide the drugs of the vegetable kingdom into two classes, calling them (*a*) potent remedies, or those which are poisonous in their nature, *e. g.*, aconite, belladonna, opium, nux vomica, etc.; (*b*) non-potent, or those which are mild in their action, *e. g.*, asafœtida, buchu, cinchona, ergot, etc. In the second place, they should abolish all the fluid preparations of the drugs save one, calling it fluidum, as fluidum aconiti, or fluidum ergotæ. Possibly it might be well to retain the vina and the syrupi of the different medicines. Of what practical value is it to have two or more fluid preparations of the same drug, with actions the same, differing only in strength? In this simple way we would cut down our Pharmacopœia, and yet retain all our favorite drugs.

In the third place they should give to the potent remedies a uniform maximum and minimum dose, say from five to ten drops, or minims, and to the non-potent, from thirty to sixty drops, or minims.

Life is too short for the ordinary practitioner to try and remember the doses of the different drugs and poisons, even to be found in "Wood's Pocket Therapeutics and Dose-Book." There are too many other things equally, if not more, important to be remembered. It would seem to me a little embarrassing to be obliged to refer to a dose-book in the presence of your patient, as I have heard of some men doing; and yet you might be doing him an untold wrong by not prescribing a certain drug when indicated, simply because you were not sure of its dose.

I would like to advise the physicians and pharmacists to think of this matter before it is too late, and if a plan which is more feasible is suggested, give it to the profession through some medical journal.

C. K. Fleming, M.D.

1616 Glenarm Street, Denver, Col.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 26 to February 1, 1890.

Macauley, C. N. Berkeley, Captain and Assistant Surgeon. By direction of the Secretary of War, the extension of leave of absence granted in S. O. 294, December 18, 1889, A. G. O., is farther extended one month. S. O. 22, Par. 1, A. G. O., January 27, 1890.

Middleton, Johnson V. D., Major and Surgeon. Granted leave of absence for fifteen days. Par. 9, S. O. 27, Headquarters of the Army, A. G. O., January 25, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending February 1, 1890.

Rush, C. W., Passed Assistant Surgeon. Detached from Naval Academy, and placed on waiting orders.

Decker, C. J., Assistant Surgeon. Ordered to the Naval Academy.

Green, E. H., Passed Assistant Surgeon. Detached from the Alert, and placed on waiting orders.

Beardsley, G. S., Medical Inspector. Granted extension of leave to April 30th, with permission to remain abroad.

Constipation and Vomiting of Pregnancy.—An Austrian physician reports a case of obstinate vomiting of pregnancy which was immediately relieved by emptying the bowels by enemata. As long as the bowels acted regularly there was no trouble, but the vomiting returned whenever constipation was present.

Medical Items.

Contagious Diseases.—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 1, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	17	2
Scarlet fever	73	13
Cerebro-spinal meningitis	1	3
Measles	81	10
Diphtheria	112	24
Small-pox	0	0
Varicella	6	0
Cholera	0	0

The Dawson Prizes.—The annual contest for the Dawson prizes at the Good Samaritan Hospital, Cincinnati, was entered by a larger number of aspirants than usual. These contests in bandaging, drawing, and dissecting, are made by the students of the Medical College of Ohio, and excite much rivalry in their respective departments. Five doctors, from Cincinnati and vicinity, are chosen in each arena to act as judges. They render their decision impartially, and hand it to Dr. Dawson in a sealed envelope, which he opens Commencement night and announces the successful names. The occasion is made a half-holiday, with Professor Dawson as Master of Ceremonies. A number of speeches are made, interesting cases shown, and the annual feast winds up the occasion. The students and profession greatly appreciate Dr. Dawson's great-heartedness and liberality.

The Electrical Treatment of Uterine Fibroids.—Dr. Apostoli, of Paris, attacked the method particularized by MM. Championnière and Davion at the meeting of the French Congress of Surgery. Their method is based on the employment of currents of moderate intensity, the extra-uterine action, and the reversed action. He claims the inferiority of this method for various reasons. Their statements are based on seven months' experience and eleven cases, while the method of Apostoli has been established seven years, has received the approval of all who have used it, and includes several thousand observations in France and other countries. They remain surgeons, and continue to perform castrations and hysterotomies. They select their cases, using the current on aged women or those but little sick, and operating on the young women. They admit failures which legitimize their surgical intervention. Their method remains vaginal and extra-uterine, preventing all cure of the accompanying endometritis. With them the relapses are constant if the treatment is not continued. They do not affirm as to the disposition of the inflammatory deposits. "La fonction des eaux chloruées sodiques," which they praise, shows that their method is at fault. They have not proved the evident anatomical reduction of the fibroma. Apostoli asserts the efficaciousness of his method: Because it has the pretension to suffice in itself, and in most cases to supplant surgery in the treatment of fibroma. It does not require the selection of cases, and all cases are ameliorated, young and old. Because failure is the exception in all cases of simple fibroid tumors, not fibro-cystic, which are not complicated by ascites, and without puerperal lesions of the annexes. Because there is utilized the action of vaginal galvano-punctures, either singly or in conjunction with the intra-uterine action, which is necessary for the endometritic lesions. Because relapses are the exception, and the greater part of the results remain constant if the treatment has been sufficiently prolonged. Because it embraces within its sphere of action, under formulæ of intensity and divers localization, the treatment of fibroma, that of endometritis and metritis, and of a great number of cases of ovaro-salpingitis.

Because it can do without an additional treatment, even that of les eaux chloruées sodiques. Because there has been observed an anatomical reduction of the fibroma, not total, but partial. His method is inoffensive and always supportable if the rules are conformed with, the very rare cases of death observed are due, in great measure, to errors in diagnosis, tumors of the appendage mistaken for fibroma and electrically treated. Apostoli claims the priority and paternity of all medical electrical applications exceeding fifty milliampères. For two years he has exclusively employed intensities from forty to seventy milliampères; since that time he has considered it necessary to increase, not in an exclusive and blind manner, as has been stated, but by a rational and progressive method, according to the cases. The intensity should be moderate in cases of uterine intolerance or peri-uterine affections; the intensity should be increased in all the grave forms complicated by endometritis or by hemorrhage. Aimé, Martin, and Chéron were the first ones to particularize (1879) the action extra-uterine, either on the neck or on the vagina, and were the first to use the reversals, or the interruptions of the galvanic current. Moutz Benedick, of Vienna, has also applied the reversed galvanic current before MM. Championnière and Davion.

The Travels of a Needle.—Surgeon T. Y. Baker reports, in the *British Medical Journal* of December 14, 1889, the case of a gunner who came to him complaining that "he had a bone in his leg." On examination, a hard substance was felt beneath the skin of the right leg, on its external aspect, about its middle third. On making a small incision, a large needle, measuring 3½ inches in length, was easily withdrawn. The needle was perfect as to its eye and point, but somewhat corroded. The patient had previously followed the trade of a portmanteau maker, and the needle was such as is generally used in that handicraft. His statement is that about last Christmas he was employed at his calling, when his fellow-workmen played him a trick by boring a hole in the bottom of the chair he worked in, and placing the needle, point upward in the hole, in such a manner that by means of a string it could be jerked upward into the victim's buttocks. This they did so successfully that the needle penetrated the tissues, and the string slipping off, it entirely disappeared in the gluteal muscle, leaving the subject of this practical joke in ignorance that the needle was retained in his flesh. The patient stated that he suffered much pain in the right hip and leg for about six weeks after, and was unable to work, and again in February, when probably the needle was passing the knee-joint; but he recovered completely and was able to enlist in the Royal Artillery. It is difficult to imagine how this large needle passed from the gluteal region down the thigh, over or under the knee, and made its way to the surface of the middle of the leg.

Cowhiding—More Blessed to Give than to Receive.—Cincinnati has had a sensation recently in a malpractice suit, which resulted in the attempt of two lawyers to cowhide the editor of a medical journal. In April, 1888, Dr. C. D. Palmer, Professor of Obstetrics and Diseases of Women and Clinical Gynecology in the Medical College of Ohio, and Gynecologist to the Cincinnati Hospital, operated on a woman, and during the operation one of his needles broke and the piece could not be found. A few days later the doctor met with an accident, his horse running away, throwing him out under a culvert, whence he was taken up for dead. He was taken to the Good Samaritan Hospital, where he lay in a semi-unconscious state for weeks, and was unable to return to his professional work for a year. When able to travel he went to the Atlantic coast, and afterward to California, and regained his lost health and strength to such a degree that his practice, hospital, and college work were resumed. During this time, while he is many thousand miles away seeking health, the woman goes to another doctor, complaining of great pain. Another operation is performed and, behold, a piece of needle is brought forth. Recently Dr. Palmer received a letter from a youthful firm of briefless barristers, intimating that unless he came down with some money he would be sued for damages. He refused to consider their proposition, and was sued for $10,000. This action was followed by a scathing editorial in the next number of the *Lancet-Clinic*, January 25th, from its editor, Dr. J. C. Culbertson. His were words that burn, the actual cautery applied with unsparing hand, which cut to the bone, penetrating nerves and tissue in all directions. The limbs of the law read, writhed, condemned, and sentenced the writer to a dose of cowhide. They sallied forth, with their cowhides fresh and new. They entered the doctor's office and, without presenting their cards, began using their pretty weapons. The editor, who was brought up on a big farm, soon recovered from his surprise, shook his powerful frame, took the weapons from the legal sprouts, gave them the dose they came to bestow upon him, walked to police headquarters with a cowhide in each hand and blood in his eye, and quieted official fears by telling them he had only come to swear out a warrant for assault and battery. It is to be hoped that the action of these two attorneys will not only lead to the dismissal of the case with these champions, but to the disbarment of the men who would resort to such means to retaliate on an editor. If lawyers cannot obtain redress at law, who can? The plain path for the medical profession to pursue is to stand together, to boycott lawyers who undertake these "bleeding" cases, destroy their business and political aspirations, where possible, and show that the medical profession is a unit, and a dangerous one to attack.

The Strangers' Cold.—A writer in the *Pall Mall Gazette* gives the following account of a curious phenomenon which has been noticed and commented upon by several observers before: During a seven years' residence in Norfolk Island—the well-known settlement of the descendants of the Bounty mutineers—he writes, he had opportunities of verifying the popular local tradition that the arrival of a vessel was almost invariably accompanied by an epidemic of influenza among the inhabitants of the island. In spite of the apparent remoteness of cause and effect, the connection had so strongly impressed itself on the mind of the Norfolk Islanders, that they were in the habit of distinguishing the successive outbreaks by the name of the vessel during whose visit it had occurred. But the phenomenon is not confined to Norfolk Island. Whatever may be its explanation, there are evidences of its appearance in widely sundered localities. In *Chambers's Journal* for July, 1888, an article headed "The Strangers' Cold," gives various instances of influenza appearing among remote populations simultaneously with the arrival of strange vessels on their coasts. The island of St. Kilda is quoted as having a fixed tradition to this effect, while in Wharekauri, an island about four hundred and thirty miles east of New Zealand, the circumstance is so well recognized that the mere appearance of the influenza is sufficient signal to the inhabitants of the interior that a strange vessel is in port.

A Uretero-uterine Fistula.—Professor Treub reports a case of this exceedingly rare character. A young woman, aged twenty-two, was delivered of a child for the first time where the forceps were required. After the confinement had been recovered from, a discharge still continued *per vaginam* of a fluid character like urine, but no seeming fistula of bladder or urethra could be discovered. She was received at the Leyden Hospital under the care of Professor Treub, who found on examination both sides of the os lacerated, but could discover no fistula. The discharge had an acid reaction, but how or where it got into the uterus could not be decided. The woman urinated twice a day by the natural channel. New milk was injected into the bladder, but none of it appeared in the discharge from the uterus! The woman went on urinating by both the urethra and the uterus without any pain

or trouble, except the discomfort of being constantly wet. The neck of the uterus was dilated by means of iodoform gauze, which produced a good deal of pain in the large intestine. After the finger could be passed into the uterus, Treub found that the fundus was dislocated toward the right and attached to the pelvis, and that a round tumor about the size of a hen's egg projected from the side of the organ, which up to this time had been taken for the organ itself. From this round smooth tumor the fluid seemed to be oozing away, as the perforation on its anterior side seemed to be very narrow. From the external appearance of the pelvis nothing appeared to shed light on the phenomenon. The fluid discharges from urethra and vagina were found to be equal, but that of the vagina was muddy and albuminous. The urethra was next dilated with Simon's instrument till a sound could be introduced. The mouths of the ureters were normal, but no urine was observed to exude from the right. A sound was introduced into the ureter, but could not be passed beyond one centimetre into the canal. Four weeks after this examination, when the catarrh had subsided in the bladder from the necessary rough handling, Treub resolved to remove the right kidney after Simon's method. The ureter as well as the blood-vessels were tied with catgut. The wound was washed with solution of iodoform, and dressed with iodoform gauze tampons. After fifteen days the tampons were withdrawn, the wound sewed up, a firm bandage applied, and the patient admonished to lie on the right side. In the meantime the catarrh of the bladder repeated itself as a complication, which was treated with injections of nitrate of silver and boracic water solutions, and healed favorably. Seventeen days after sewing the wound, seven of the stitches were removed, and on the twelfth all the others were withdrawn, while the wound healed by first intention. About three months after the operation the hard resisting swelling at the side of the uterus could still be found. The urine was perfectly clear, no albumin, and normal quantity, and the patient was dismissed from hospital. Three weeks later she returned, and the small tumor still remained, with a slight discharge from the uterus. The pathological appearance of the removed kidney showed considerable enlargement by thickening of the walls, while the ureter was about three millimetres wider in diameter than usual. The pelvis was greatly enlarged. On the upper part of the kidney was an enlarged swelling, which when cut into was found to be a small abscess forming the beginning of suppurative pyelo-nephritis. The importance of this case may be understood by a reference to the literature of the subject. There are only eleven cases to be found on record, including this one of Treub. Of these it occurred six times in the left ureter, three times in the right ureter, and twice it is undefined.—*Medical Press.*

Hypochondriasis.—Professor Mendel, in a lecture before the Association of Physicians at Berlin, defines hypochondria as a functional disease of the brain, the essential symptoms of which are fear and anxiety about the patient's own state of health. The disease appears, according to Professor Mendel, in three different forms. The simplest of these forms, for which the lecturer proposes the name of nosophobia, is when the patient considers himself seriously ill or near death. The second form shows not only the same fear and anxiety, but also various organic hallucinations. The internal organs have probably, like the extremities, a centre in the cortex, and any irritation of this centre will usually produce a special class of sensations, which in this case become hallucinations. The third form shows, in addition to all the foregoing symptoms, hallucinations of the higher senses. Patients believe their hearing and sight are getting worse. They also sometimes hear voices, as it were within the head. The affection is, according to the course it takes, divided into acute, subacute, and chronic or constitutional hypochondria. Contrary to a general belief, it is very frequent among females of every age. Nosophobia is certainly much more frequent in man, probably because women act as nurses, and consequently have no fear of infection. The second form is very frequent among women, and is generally connected with the sexual organs. These patients generally come under the care of the neurologist only after having become much worse through unsuccessful gynecological treatment. The so-called cerebral form is most frequent. Patients say that their head feels as if it were in a vice, or that it is soft, empty, or too light, and that the spinal column cannot support it. They are consequently in fear of apoplexy or insanity. The third form appears chiefly among women. Patients fancy themselves altered; when standing before a looking-glass they believe their faces to be wrinkled, etc. They fear that their means will become insufficient to live upon, that they will lose their place, and they suffer from claustrophobia. Hypochondriacs are characteristically egotistic. This symptom is more prominent in women than in men. One woman kept her bed for twenty-five years, without any disease, and committed suicide in bed. Generally, however, suicide is rarer in hypochondriacal women than in men. Sleep is generally good. Paræsthesia and hyperæsthesia are frequent, as are also cold feet, while the head is warm. Professor Mendel has frequently discovered a spot on the head of such patients which felt hotter to the hand than the rest of the head. In complications of hypochondriasis with other affections (hypochondria cum materia), Dr. Mendel teaches that the latter are the cause of the neurosis. Especially important is the complication with hysteria, which is generally the primary affection.—*The Lancet.*

The Way of the Doctor is Sometimes Hard.—One of the best known physicians in New York remarked the other day that in eleven years he had accumulated $25,000 of absolutely bad debts on his books. This was apart from more than as much more he had to collect by legal means, and some of which was doubtless also hopeless. He had never sued a debtor or put a collector on him until a couple of years before, when the steady increase of the dead-wood on his account books forced him to do it. It is beyond question that his case is only one of many. There is probably not a doctor in the city who is not a heavy loser by unpaid fees, and the higher his standing the heavier his losses. It is getting to be quite common now for men to be sued for doctors' bills. The other day I was talking on Broadway to a dry goods merchant worth a cold million at least, when he was served with a summons. He commenced to warm the winter wind with heated observations. The summons was for a bill of $150 for medical attendance on his wife at a hotel, while he was at the Paris Exposition. And what is more, from all I know, the money was fairly earned, for the woman was narrowly saved from a death invited by her own carelessness and defiance of sanitary laws. Yet the husband allows himself to be taken into courts, with the chance of having the whole story of the case made public, rather than pay a deserving young doctor the little money he owed him. I asked this person why he did not pay the bill and spare himself the trouble of being dunned for it. "Oh, —— these doctors' bills," said he, "I'd never pay one if I could help it," and there are doubtless plenty of people of his way of thinking among us.—*New York News.*

Perseverance Rewarded.—Dr. Nieden reports, in the *Centralblatt fur Gynäkologie*, December 14, 1889, the case of a married couple who had lived many years in America, and were childless. They returned to Germany to celebrate their silver wedding, and concluded to remain there. Soon after their arrival the woman's menses ceased, and she supposed that it was the menopause, but was surprised later to find that she was pregnant, and in due course gave birth to a healthy child. Dr. Nieden adds that there was not the slightest question as to the paternity of the child.

Dr. Motais.—The name Dr. Matais, of Angers, mentioned in the Paris letter which was published in the RECORD of January 4th, should have been printed Motais.

Our Streets.—New York has 574.88 miles of streets to clean, and there are collected half a million cubic yards of street-sweepings and one and one-half million cubic yards of garbage and refuse yearly, at an annual cost of about one million dollars.

The International Centralblatt für die Physiologie und Pathologie der Harn- und Sexual-organe is the name of a new monthly edited by Dr. W. Zuelzer, and published at Hamburg and Leipzig.

A Much-advertised Asylum.—By some ingenious method the Middletown Insane Asylum always manages to get a long annual notice in the daily press, in which statements are made to the effect that this institution is under the care of a most distinguished alienist (name given), and that the results of treatment are superior to those elsewhere. Such fulsome notices are in bad taste, and do, indirectly, an injustice to other, and, in fact, better-equipped and conducted State asylums.

Woman's Obstinacy.—In a book entitled "New Views of the Process of Defecation," by Dr. O'Beirne, of Dublin, a case is cited of a girl, nineteen years of age, who had not a stool of any kind, or passed even flatus per anum since early in the preceding December, a period of nearly six months.

An Impatient Child.—A case of Cæsarean section was down on the bills at one of our city clinics the other day, but the child would not wait, and came into the world by the usual route before the clinic day arrived.—*Times and Register.*

The Credé Method of expelling the placenta is said to have been abandoned by its author, who admits that it may have done more harm than good to the lying-in woman.

Der Fortschritt, a journal of pharmacy and therapeutics, published in Geneva, has gone out of existence at the end of its fifth year.

The Danish Pharmacopœia.—A committee of physicians and pharmacists is at present sitting in Copenhagen preparing a new edition of the pharmacopœia. Delegates are also present from Sweden and Norway in order that all the Scandinavian pharmacopœias may be as nearly as possible in agreement.

The Death-rate in Texas, from all causes except accident, murder, and suicide, is estimated by the inhabitants as being 8.33 per 1,000 inhabitants. A Memphis contemporary innocently asks what the death-rate would be without the foregoing exceptions.

The Langenbeck House in Berlin.—This building, which is to be the common home for all the medical societies in Berlin, will be ready for occupancy, it is hoped, in about two years. The owner of the house will be the German Surgical Association, which has devoted its surplus of $25,000 to the erection of the building. About $20,000 has been collected by subscription, of which the Germans in this country have contributed about $2,500.

The People of Boston, according to the estimate of a local journal, consumed about a ton of quinine in the course of ten days while the influenza was at its height. That is about four grains a day for each man, woman, and child in that city.

Why the Japanese Stoop.—Dr. Kidera Yasuatsu has been inquiring into the cause of the habitual stoop of the Japanese, and concludes that it is due to their excessive politeness, the bent posture being considered one of deference.

The Insane in Manitoba are quartered in the penitentiary. The Northwest is a newly settled country, but its inhabitants seem to be imbued with some last-century notions.

To Practise Deep Breathing.—1. Stand erect, the feet separated, the right slightly in advance. 2. Shoulders and head in natural position. 3. Hands lying lightly on the abdomen, the fingers pointing to the umbilicus. Compliance with this rule enables the child to be sure she is using the abdominal as well as the pectoral muscles in respiration. 4. Empty the lungs of air, then close the mouth. 5. Inhale slowly through the nostrils, using abdominal as well as chest muscles. The lungs thus receive the utmost possible amount of pure oxygen and the muscles have exercise. 6. Hold the breath as long as possible, and meanwhile use the ordinary calisthenic exercises. 7. Never exercise except with the chest well expanded with air. 8. Exhale slowly, enunciating the vowel sounds as the air passes the lips.

Toxic Effects of Sulphonal.—Mr. Hutchinson records, in his *Archives of Surgery*, a case which illustrates the unpleasant symptoms that may result from the abuse of sulphonal. His patient was a lady, who came to be operated upon for epithelial cancer of the vulva; her manner and the want of interest she showed in the proposed operation caused him to regard her as an idiot. After the operation she had retention of urine; on the following day she had an erythematous eruption all over her thighs, the skin becoming everywhere of a deep red tint without papules or other changes. On the second day after the operation there was an improvement in the patient's manner, and this continued every day until she was as bright and cheerful as possible; at the same time she lost the heavy, sottish expression which before she had worn. After continuing out about four days, the eruption completely and rapidly disappeared. It was subsequently ascertained that up to the time of her coming under his care she had been taking sulphonal in repeated doses. The remarkable feature in the case was that the apparent idiocy should have lasted so long after the disuse of the drug, and that the eruption (if it was dependent upon this cause) should not have shown itself at all until at least three days after the discontinuance of the hypnotic.—*The Practitioner.*

The Pope Instinctively a Sanitarian.—We have, more than once, ventured the assertion that all really great men are, in practice, if not in theory, sanitarians; that they are so constituted naturally that a natural or hygienic life comes, so to speak, natural to them. They do what nature intends that they should do, because they are not, instinctively, urged to do otherwise. Such persons we might call natural or instinctive sanitarians. Then again we have those who live naturally, not because instinct so prompts, but because wisdom so dictates. In these two classes, we venture to say, if we fairly examine the question, will be found all really and truly great men. The present Pope, Leo XIII., is a remarkable illustration of the results of a natural, simple life. There are few persons in the world, even of half his great age, who possess the clearness of intellect and the capacity for work that he displays. Yet, had he not been careful of his health, he would surely have been in his grave many years ago, for he is not, and never has been, robust. The frugal, simple, natural life of the Pope furnishes a most admirable example for those who would desire to live long, healthy, happy, and useful lives.—*Annals of Hygiene.*

Doctors Disagreeing.—A Greek physician, practising in Constantinople not long ago, became so incensed with an Armenian *confrère*, who ventured to dispute his diagnosis, that he challenged him to a duel. The result was that he was arrested and sentenced to imprisonment for a year. He was very foolish, for the autopsy would have settled the point in a much more satisfactory manner to all concerned, except, possibly, the patient.

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Original Articles.

BACTERIAL STUDIES ON THE INFLUENZA AND ITS COMPLICATING PNEUMONIA.

By T. MITCHELL PRUDDEN, M.D.,

DIRECTOR OF THE LABORATORY OF THE ALUMNI ASSOCIATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

THERE are so many features which the disease called familiarly *la grippe* shares with the more common and more completely studied acute infectious diseases that medical men have pretty generally agreed in classing it with these, in spite of its marked peculiarities and the wide variation in its manifestations. Furthermore, so much positive knowledge has been recently accumulated regarding the etiology of many of the acute infectious diseases that the assumption that the epidemic influenza is probably caused by some kind of micro-organism seems fairly justifiable on the ground of its clinical manifestations alone.

But we have as yet no positive knowledge whatsoever as to the exact nature of the assumed micro-organism. By the aid of the new technique for the study of micro-organisms no investigations have yet been made on this subject whose results have been formulated and published.

Now it so happens that nearly all of the acute infectious diseases whose etiology has been satisfactorily established on a basis of actual observation and experiment have been proved to be caused by bacteria; that is to say, by micro-organisms which belong to a particular class or group.

So important has this group of micro-organisms called the bacteria appeared to be, in the light of recent studies, that in the minds of many, perhaps most, medical men the terms bacteria and micro-organisms are synonymous. But we ought not to lose sight of the fact that while we know that several diseases, among which may be mentioned tuberculosis, anthrax, erysipelas, pneumonia, typhoid fever, relapsing fever, etc., are caused by bacteria, there is a large and important group—small-pox, measles, scarlatina, yellow fever—about the relationship of which to micro-organisms we know, except by inference, practically nothing at all. These latter diseases, too, stand so apart from the others in their clinical manifestations and mode of transmission that it must be assumed that their peculiarities and the fact that we know as yet so little about them, in spite of much recent careful study, may be due to some marked difference in their etiological factors. In other words, it is not improbable that the exanthemata, for example, and yellow fever may be caused, not by bacteria at all, but by some other kind of micro-organisms which our present means of study do not enable us to take cognizance of or cultivate in the usual way.

This possibility becomes very comprehensible in view of what we know about the malarial organisms, which, although causing marked disease, cannot as yet be studied by the culture methods known and practised by the bacteriologist. There seems to be, both in the clinical manifestations and in the mode of spread of *la grippe*, much to suggest, not, indeed, that in its etiology it may be allied to malaria, but that it may stand related in its etiology to the better known acute infectious diseases much as malaria does—that is, may be due to a micro-organism, but to one of an entirely different class. The *plasmodium malariæ* belongs not among the bacteria or their close allies at all, but among an entirely different group of living beings. We might apparently have gone on trying to make something grow out of malarial blood upon our nutrient gelatine and agar, etc., indefinitely, if the constant presence of the disease with us had not permitted such morphological studies as have led to fairly definite notions as to its etiology, without recourse to the more subtle culture methods.

But whatever the truth of the matter may be concerning the assumed germ of epidemic influenza, it is evident that studies with the current bacteriological technique should not be neglected until they are proven to be useless, or some better method of observation is made known. For even negative results may throw a side light on this or closely allied problems.

Cases of Simple Influenza.—The number of cases of simple influenza which the writer has studied by the current bacteriological methods will appear very small to those physicians whose clinical observations during the recent epidemic extended to scores, if not hundreds, of cases. But so time-consuming is thorough bacteriological work on the etiology of disease that the whole available time of the writer during the epidemic was consumed in the study of material derived from seven cases. These were all unmistakable cases of the disease, but presented varying phases of symptoms.

In three of the cases there was bronchitis, with considerable muco-purulent expectoration. In the remainder there was moderate coryza, in two with considerable, in two with slight discharge. In all but one the discharge was obtained in the early stages of the disease, in that one on the fifth day.

Cultures were made on agar and agar-glycerine plates, at the temperature of the body, several plates from each case, and all of the more abundant bacterial species which developed were isolated and subjected to further examination and experiment.

The results of this series of studies may be summed up in a very few words. In two of the three cases of influenza associated with bronchitis there were very large numbers of Streptococcus pyogenes; this was the prevailing species. All the rest were scattering forms, commonly found in the sputum in bronchitis, most of them the ordinary aërial bacteria. In the other case of bronchitis there were large numbers of the Diplococcus pneumoniæ of Fraenkel and Weichselbaum, associated with a few Staphylococcus pyogenes aureus, and several scattering forms.

In the secretion from the nose of one of the cases with coryza were a few of the Staphylococcus pyogenes aureus, while all the rest, which were not numerous, were scattering forms.[1]

Influenza Cases associated with Pneumonia.—Let us turn now to the pneumonia which has been so frequent, and in many cases so serious, a complication of influenza in our recent epidemic. I have examined by the culture methods the sputum from five cases suffering from a prolonged and irregular pneumonia immediately following the influenza attack, all hospital cases; also the irregularly hepatized lung from a fatal case of pneumonia following influenza; six cases of pneumonia following influenza in all.

[1] While the secultures were being made the scanty sputum from a case of moderately severe simple pharyngitis was studied in the same way, and in this very large numbers of the Diplococcus pneumoniæ were isolated, together with a considerable number of scattering forms.

The cultures of the sputum of the first five cases showed enormous numbers of the Diplococcus pneumoniæ in four. In all of these four cases there were also considerable numbers of Staphylococcus pyogenes aureus, together with moderate numbers of other scattering forms—and in one, large numbers of Streptococcus pyogenes. In the fifth sputum specimen there were very large numbers of Streptococcus pyogenes and Staphylococcus pyogenes aureus, and a considerable number of scattering forms. From the lung of the fatal case enormous numbers of the Diplococcus pneumoniæ were cultivated, and nothing else. It was a pure culture.

Thus in five out of six cases of prolonged and irregular pneumonia following influenza, the Diplococcus pneumoniæ was found, being identified in all five cases by culture and by animal inoculation. The only other pathogenic species found was the Streptococcus pyogenes, and the Staphylococcus pyogenes aureus.

Summary.—If now we sum up the whole series of examinations we find that in the secretions from seven cases of simple influenza no special new forms of bacteria were discovered which there is reason to believe have anything to do with causing the disease. The only pathogenic species which were found were the well-known pyogenic bacteria, Staphylococcus pyogenes aureus, Streptococcus pyogenes (in four of the cases), and the Diplococcus pneumoniæ (in one of the cases). In the pneumonia following the influenza (six cases) we also found no special new forms of bacteria but the same pyogenic forms (in five of the cases) and the Diplococcus pneumoniæ (five cases).

Conclusions and Remarks.—Thus while we gain no positive new light on the etiology of epidemic influenza in this series of examinations, we are able, from the results of the studies on the pneumonia which accompanies it, to establish the probability that the pneumonia, although apt to be irregular in its course and atypical in its morphology, is usually due to the same bacterial agency as is at work in the ordinary acute lobar pneumonia. How much this may be further complicated by the frequent presence of the pyogenic bacteria is a question which must be settled by further studies on the general relationship of these organisms to inflammations of the respiratory organs and to other mucous membranes.

It would seem from these studies, furthermore, that the relationship of the influenza to the pneumonia is that of a predisposing factor only—a conclusion, indeed, toward which clinical investigators have been already led by a different line of observations.

The phase of pneumonia which this epidemic has brought into prominence, is instructive in its relationship to the ordinary typical acute lobar pneumonia. It seems pretty well established that the Diplococcus pneumoniæ of Fraenkel and Weichselbaum is the most common, if not the exclusive, primary etiological factor in acute lobar pneumonia, judging from its constant occurrence in the affected regions, from its pathogenic effects upon animals in experimental inoculation, and from its frequent occurrence in complicating lesions.

The very frequent occurrence of this micro organism in the saliva of healthy persons not only does not militate against its etiological importance, but furnishes a most satisfactory rationale of the occurrence of the disease. For under ordinary conditions the Diplococcus pneumoniæ appears to be quite harmless in the saliva. It is only when the suitable predisposing conditions—which we recognize in injuries, and in exposure to cold and wet, but which in many cases we do not understand at all—are fulfilled, that the growth of the germ in the lungs and its accompanying lesions can occur.

It would seem that the influenza, with its tendency to an involvement of the respiratory passages, furnishes, not indeed the common, but an analogous predisposing condition leading to an atypical pneumonia. This form of predisposition to pneumonia seems to be, in many respects, similar to that which measles furnishes in children to the incursions of varying forms of pulmonary inflammation whose determining etiological factors have not yet been sufficiently studied.

It may be remarked in conclusion that to the negative results of these studies on the influenza only such importance should be attached as the small number of cases examined will justify. We simply learn that in these few cases the use of the culture methods and media commonly employed in the study of bacteria and allied forms of micro-organisms has brought to light no living germ which there is reason to believe has anything to do with causing the disease.

But this negative result should leave us entirely unprejudiced toward any other series of observations which, with more abundant material and a more refined or favorably applied technique may promise a solution of the problem.[1]

February 3, 1890.

THE SURGICAL TREATMENT OF LOCAL AND GENERAL PERITONITIS, WITH REPORT OF TWO CASES OF GENERAL PERITONITIS DUE TO PERFORATION SUCCESSFULLY TREATED BY FREE INCISIONS, IRRIGATION, AND DRAINAGE.[2]

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NEW YORK.

My excuse for bringing this subject before you to-night is its importance, and the firm conviction that there are hundreds of men and women dying from peritonitis who might be easily saved if the medical profession would recognize the fact that a majority of such cases could be saved by prompt surgical interference.

The number of cases occurring in every town of any size is incredible to anyone who is not specially interested in studying the subject.

Here in New York, where one would suppose well-to-do patients would not be denied in many cases the only chance of being helped by laparotomy or surgical treatment, not one in ten have the question of operation considered, unless all other means fail, and then, with rare exceptions in cases of general peritonitis, it is too late.

For the past seven years I have worked faithfully with my gynecological colleagues to try and convince them that, practically speaking, there is no such thing as chronic pelvic cellulitis; that the so-called cases of cellulitis—especially those called chronic, where "attacks of cellulitis" are constantly "being lighted up"—are nothing more nor less than cases of local peritonitis due to salpingitis and ovaritis, *and when there is positive evidence of the formation of pus, or the patient is bedridden from frequent attacks, that the only rational treatment is by laparotomy.* That pelvic abscesses, nine times out of ten, are merely the result or the sequel of neglected cases of local peritonitis, and although when actively septic and readily reached by the vagina *behind the uterus* they should be opened and drained; but the only radical and certain cure is, as a rule, by laparotomy. And that when laparotomy is resorted to, the pus should be first carefully drawn off and the sac rendered aseptic by washing it out with antiseptics, and not sewn into the abdominal wound, but enucleated and removed with the diseased tube and ovary nearly always found in it. Even during the acute stage of either local or general peritonitis laparotomy should be done, if life is threatened either by sepsis or intestinal obstruction.

[1] While this article was in press the results of a similar study on the influenza, by Rikert, in Bonn, reached this country in the Deutsche Medicinische Wochenschrift, of date of January 23, 1890. His bacteriological study of five cases of influenza, two of which were without, the others with, pneumonia, showed that the only species constantly present was the Streptococcus pyogenes. The Diplococcus pneumoniæ he did not find at all. He very guardedly suggests the possibility that the Streptococcus, in association with some unknown peculiar atmospheric condition, may cause the disease. Whether this be true or not, he would lay stress upon the probable importance of the Streptococcus in inducing the various complications.

[2] Read before the New York Academy of Medicine, January 4, 1890.

Success has overcome almost all opposition among gynecologists, and as a rule the above is the accepted practice. When I began, I was accused of mutilating women, and even to-day some of my old teachers, while admitting my success to those who ask about me, still claim that I am too fond of the knife.

Although I do not now practise general surgery, I am interested in all abdominal surgery, and I am convinced that the general surgeons will soon adopt about the same rules of procedure in treating local and general peritonitis occurring in the abdomen that gynecologists have established as the best plan of treating pelvic peritonitis.

My experience in peritonitis from typhlitis or perforation, is limited, but my large experience in peritonitis, the result of salpingitis, warrants me in at least stating my views.

The general surgeons have been lately going through the discussion as to whether the abscesses formed about the vermiform appendix and cæcum are intra- or extra-peritoneal. It is exactly similar to what gynecologists have years ago been through in regard to pelvic abscesses. I believe that the intra-peritoneal theory is the right one in both cases.

As a rule, at least, it would seem that typhlitis is due to ulceration through the appendix or intestine, causing in most cases a local peritonitis around the centre of ulceration; as pus is formed it is shut off and encysted by lymph from the free peritoneal cavity, and gradually an abscess of greater or less size is formed, unless the opening in the gut is so large, or the septic matter escaping is so virulent, that general peritonitis at once is set up.

Once the abscess is encysted, the tendency of the peritoneum is to protect itself by forcing out the pus into the connective tissue, or through the wall of the intestine, either through the original point of ulceration or a new one. This is precisely the same with pelvic abscesses around the Fallopian tubes, and in many cases nature effects a cure and helps on the conservative argument; but he must be a small man who sits by and takes the credit of curing the case by letting the patient run three out of four chances of dying, instead of operating, and giving at least nine out of ten chances to get well by establishing a free and safe outlet for the pus. When the peritonitis is local the symptoms are, first, a severe colicky pain over the abdomen, in the first few hours usually most marked about the umbilicus; but soon the pain becomes most marked directly over the region of the appendix, and after the first twenty-four hours distinct tenderness will be localized in the same region. There may be vomiting, but, as a rule, the symptoms of intestinal obstruction are not present, or are only temporary in character. There are usually pretty well marked chills or chilly sensations, with some rise of temperature, usually not over 101° or 102° F.

For several days, usually four or five, the symptoms will vary, the pulse may be at times not above normal, and the temperature may even sink to normal and the bowels move, yet the local pain, or at least pain on pressure over the vermiform process remains, and may be the only indication of the presence of a pint of stinking septic pus which is liable at any moment to burst into the free peritoneal cavity and cause death in twenty-four hours. This condition was perfectly illustrated by my second case. Usually on the fifth, sixth, or seventh day the abscess will find an outlet or burst and cause general peritonitis.

As a rule, if the case starts as one of general peritonitis, it will not end fatally in twenty-four or forty-eight hours, as is the rule when a large septic abscess bursts after five or six days of local peritonitis, but the colicky pains will be more intense and persistent than in local peritonitis, and the vomiting and constipation or intestinal obstruction will be persistent or readily provoked by attempts to feed, etc.

The patient may live four or five days or even longer, if kept quiet and under the influence of opium, but unless operated upon before marked shock is present, will die with absolute certainty.

The following are short histories of the five cases of typhlitis and perforation that I have had to deal with. They fairly illustrate the most important points in local and general peritonitis starting from that locality.

I have operated upon more than two hundred cases, either during or while the patients were suffering from the results of local peritonitis starting from the Fallopian tubes or ovaries. In quite a number of these there was suppurative general peritonitis, and operation was performed when pulse was 110 to 120, and temperature 103° to 104½° F.; but such cases with gynecologists are no longer rare, and the necessary steps of operating are now very generally accepted. But it is not so with local and general peritonitis starting from the vermiform or cæcum, which are usually treated by physicians and operated upon by general surgeons. In several cases of salpingitis I have found the appendix adherent to the tube or ovary, and thrice I tied it off for hemorrhage from it when the adhesions were separated, and all of these recovered.

Case I. *Intestinal Perforation; Local Peritonitis; Perityphlitic Abscess.*—Negro man, aged twenty-two, was admitted to Bellevue Hospital, August 24, 1885. He was sent to the medical side as a case of peritonitis. In the absence of my colleague I was asked to see the man. He said that for about a week he had had great pain over the abdomen, with considerable fever, sweating, and chilly feeling. He had a temperature of 102½° F., with a quick pulse and rapid respiration. His abdomen was distended, hard, and tense, and very sensitive to the touch, especially over the right iliac region, where he said now was the point of greatest pain. He had been constipated and vomited some, but his bowels moved with an enema. There were some, but not positive, signs of the presence of a tumor. I decided that there were indications of pus, and he should be operated on at once. Dr. Janeway and Dr. Stimson saw the case, but differed with me about the indications for operation. Later in the day the late Dr. McBride saw the man, and he agreed with me that there was pus. I had the patient etherized, and could then readily make out the presence of a tumor the size of a cocoanut near the crest of the right iliac bone, within half an inch of the bone. I made an incision about three inches long. When the peritoneum was reached, I dissected down near the bone, so as to get somewhat under the side of the tumor, and to be sure to open it where it was firmly adherent to the parietal peritoneum, for I wanted to prevent the escape of the pus into the general cavity of the peritoneum. I found the muscle grayish in color, the change from the normal red color being due to slight infiltration from proximity to the inflamed tissues. I have since found this grayish color of the muscle to be a good guide in seeking a point where the sac of the tumor is adherent. With a pair of sharp-pointed forceps I carefully opened the sac of the abscess, and at once a strong spurt of fetid pus gushed out, at least a pint of dirty-colored pus with strong fecal odor escaped. The cavity was well washed with a solution 1 to 3,000, hydrarg. bichlor., and a double drainage-tube inserted. The patient's pulse fell to normal, and he made an uninterrupted recovery, and left the hospital in three weeks.

Case II. *Intestinal Perforation; Local Peritonitis; Perityphlitic Abscess.*—Male, aged thirty-seven; a strong, vigorous man. While sitting in a saloon had a violent cramping pain of the abdomen; he took some hot spiced drinks and was carried home. He suffered intense pain and sent for me the next day. His abdomen was distended and sensitive, and he had vomited some; the pain was most marked over the umbilicus; his temperature was 101° F., and pulse 105; respiration, 25. I gave him a hypodermic of morphine, and ordered a laxative for the next morning. The next day the pain was less, but more decidedly sensitive over the right side; his temperature was only 100° F., and he felt generally better after his bowels moved. The third day he had a chilly sensation, and temperature was 102° F. I kept him in bed and on

a milk diet. The fourth day he was better, but still had decided pain over the right iliac region, and was constipated. He was very fat, with not less than three inches of adipose tissue over the abdominal walls, and I could not make out a tumor, nor could I make out anything by rectal examination; but on account of the pain and decided sensitiveness over the region of the cæcum I determined to call a consultation, and refused to call a medical man. Dr. L. A. Stimson was selected. He could not make out any tumor, but agreed with me that the patient should take ether, and, if necessary, have an incision made. He was ordered a dose of castor-oil. On the morning of the fifth day his bowels moved freely and without trouble, his temperature and pulse were absolutely normal, but, as the local pain was still very marked, he was given ether. When fully relaxed we could, through all the fat, make out indistinctly a tumor near the ilium. A free incision about three and a half inches long was made, and, when the peritoneum was reached, it was plain that we were in contact with a large, fluctuating mass. Selecting a point as far back as could be readily reached, I opened the peritoneum with sharp-pointed forceps and out gushed a strong stream of stinking pus with a very decided fecal odor. The opening was enlarged and the abscess well washed out with 1 to 3,000 hydrarg. bichloride. There was no escape of fæces or gas, and when my finger was in I could feel the walls of the abscess, but made out nothing of importance. A double drainage-tube was inserted, and the upper end of the incision closed. The patient never had any rise of temperature or pulse, and in three weeks was sitting up. During the second week a nucleus of hard fecal matter, with ground up seeds like those of strawberries, came out of the wound, and soon it closed from the bottom. There has never been any return of the trouble, but a decided hernia exists, and a truss is necessary to prevent its increase in size.

Case III. *A Case of General Peritonitis, due to Bursting of a Typhlitic Abscess* (October 26, 1888).—This case was fully reported by Dr. A. M. Jacobus in the Medical Record, February 2, 1889. Man, aged fifty, in good physical health, was taken with severe colicky pains on Saturday. On Monday the pains became very severe; on Tuesday he sent for Dr. Jacobus. The doctor found him lying with his knees drawn up, the abdomen tense and very sensitive to the touch, especially over the cæcum; he was constipated. He was ordered to bed, and one-eighth grain of morphine and three-eighths of a grain of antipyrine given every three hours as indicated. Saline laxative was given the next morning. Wednesday he was better, had a full stool, but was still in pain, especially on the right side; temperature, 100⅕° F. Thursday afternoon he grew worse, and the doctor detected some signs of a tumor over the region of the cæcum which confirmed his diagnosis of perityphlitis. Friday, the fifth day, at 6.30 A.M., he was taken with violent cramping pains and rapidly developed all the symptoms of general peritonitis. At 9 A.M. he had a violent chill, and temperature went to 102° F., and pulse to 110. At 11.30 I saw him, and decided to operate at once. The abdomen was exceedingly tense and very hard, but no signs of a tumor could be detected under ether. I opened the abdomen in the median line just below the umbilicus, and, as soon as the peritoneum was opened, out gushed a quantity of purulent serum and flakes of lymph. Introducing my fingers, I made out a collapsed abscess sac over the appendix vermiformis. I then made another opening through the abdominal wound directly over this point. I inserted a large-sized glass drainage-tube, attached to the tube of a large fountain-syringe, and washed out the whole abdominal cavity. Introduced my hand and separated the adherent coils of intestines, and again washed out the peritoneum. I found puddles of pus scattered among the coils of intestines which even the second washing out did not reach, and again went over the abdominal cavity with my hand, and again washed out till the water came away perfectly clear. The pus-sac was freely opened, and the bean which had ulcerated was found. As there was no escape of fecal matter or gas the adhesions about the appendix were not disturbed. A glass drainage-tube was inserted through both the median and lateral incisions, the latter going directly into the remains of the abscess-sac. The wounds were closed with silk and dressed in the usual manner. In less than two hours the temperature fell to normal and the pulse to 90. The case was treated in the usual way, nothing by the mouth for thirty-six or forty-eight hours, warm rectal enemas for thirst. The drainage-tubes were sucked dry every few hours. The central one was removed on the third day, and the lateral on the eighth day. The sixth day the sutures were removed, and, while angry with his nurse, the patient raised on his elbow to drink a glass of water and burst the median incision, the intestines escaping from under the dressings. They were carefully washed, returned, and in an hour I closed the wound with silk sutures without ether. The temperature rose slightly, but a laxative brought it down, and he made an uninterrupted recovery and has been well since then.

Case IV. *Intestinal Perforation of Cæcum; General Septic Peritonitis.*—J. McG——, aged twenty-eight; good family history, strong and healthy, never had venereal disease, good habits; mechanic. February 5, 1889, he had some heavy lifting to do, but quit work at six o'clock feeling all right, ate a simple supper. About 9 P.M. he had a very severe cramping pain, most marked over the right side of his abdomen. By two o'clock the pain was agonizing and Dr. Ernest Walker, living next door, was sent for, who gave him hypodermics of morphine, one-sixth grain, and one grain calomel by the mouth until the pain was in a great measure relieved.

The next morning the whole abdomen was extremely sensitive to touch, and the abdominal walls as hard as boards, with some distention. The pain was very severe and decidedly more marked over the region of the umbilicus. During the day vomiting set in. More morphine was given and attempts made to move the bowels by enemas, but they were retained. Hot applications were made over the abdomen. Thursday the pain was still severe and most sensitive over right side, and temperature up to 101° F., pulse 110. Four seidlitz powders an hour apart and an ox-gall enema were given, but all of no avail. Some spinach-green vomiting. I saw the patient Thursday; his general condition was good, but all symptoms of general peritonitis were well marked. I had him sent to Bellevue Hospital. Before operation enemas were given but were retained, rectal tube let off gas and gave some relief. Temperature was only 100.6 F.; pulse, 106; but respirations were 30. Ether was given. As no signs of a tumor could be made out I opened the abdomen in the median line just below the umbilicus. When the peritoneum was opened abundant purulent serum poured out as soon as the adhesions of lymph were broken up with the finger. In passing the index finger over toward the cæcum the pus became more abundant and had a decidedly fecal odor. I could not make out any signs of a local abscess or sac of one, but decided that the region of the cæcum was the starting point of the peritonitis. I then made an incision through the abdominal wall just over the cæcum. Through the median incision I introduced a large-sized glass drainage-tube, which was attached to a large fountain syringe containing two gallons of hot water at 112° F. I handled the tube so as to wash out all the excess of pus about the cæcum. I then broke up all adhesions of the intestines in every part of the abdomen and pelvis except about the cæcum, and washed with six or eight gallons of hot water till it came out perfectly clean. By opening the lateral incision the point of perforation in the cæcum, sealed over with lymph, could be plainly seen. It was circular in shape and about two-fifths of an inch in diameter. The appendix pointed upward, was somewhat adherent, but appeared nearly normal. A glass drainage-tube was put in both openings and the incisions closed around them in the usual manner with silk sutures, and the wound dressed with iodoform gauze, absorbent cotton, etc.

The operation lasted about one hour, there were no signs of shock at any time, and the patient's pulse was as good, if not better, after than before the operation.

He made an uninterrupted recovery, his temperature was never above 101° F., the pulse 104, and after the third day it was practically normal; tympanites and pain had entirely left him. The glass drainage-tube in the median line was removed the third day, but the other tube drained rather freely and had some fecal odor for several days. The edges of the wounds, especially the lateral one, sloughed and gaped on fifth and sixth days when the stitches were removed. The discharge was irritating and the peritoneum seemed, when assisted by drainage, to take better care of itself than the connective tissue and muscles. I have noticed this in all of my four cases of intestinal perforation. The sloughing incisions were marked in all of them, while in peritonitis from salpingitis it is exceedingly rare. Thirty hours after operation a simple enema was given and bowels moved freely without trouble. After this, one small dose of morphine was given, and it was the only one after the operation. After bowels moved, kumyss and pancreated milk were given. On third day his bowels moved very freely and the amount of food was increased. On account of the lateral incision closing as an open wound he did not sit up till the end of the third week, but went out of the hospital, perfectly well, at the end of five weeks.

Case V. (September 28, 1889).—I went to the northern part of New York State to see a woman, forty-eight years of age, who had in the past ten days developed a tumor, which was very painful, on the right side just above the crest of the ilium. The history was the usual one of a slow developing abscess about the vermiform appendix. Before I saw her several ounces of pus had been drawn off with an aspirator. I could plainly make out a tumor the size of a large cocoanut. The tissues near the ilium were somewhat indurated. She was etherized, and I made an incision near the crest of the ilium, extending backward; when I reached the muscles they were grayish and infiltrated. It was evident that the sac of the abscess was firmly adherent to the lateral wall of the abdomen, and that I could safely open the abscess-cavity without entering the general peritoneal cavity; this I did, and out gushed about a quart of fetid pus. I inserted my finger, enlarged the opening, and put in a double rubber drainage-tube. The tubes drained freely for several days and were then shortened, and in the fourth week the wound was healed and patient got well.

Conclusion.—When there are symptoms of local peritonitis, intense pain and tenderness, followed by tympanites and vomiting, with chilly sensations and rise of temperature, search should be made for the cause. As a rule the pain will soon become localized over the region of the Fallopian tubes, the cæcum, or gall-bladder, or some old ventral or inguinal hernia. If signs of a tumor or exudation can be definitely made out, and the general symptoms indicate the formation of pus, then the patient should be etherized and the pus reached by incision, the pus evacuated, the cavity washed out and drained. If it is in, or involves the tubes and ovaries, the abdomen should be opened, and if the tube or tubes are occluded and pus found, they, with the ovary or ovaries, should be removed. If the abscess is around the appendix vermiformis or cæcum, an incision should be made near the crest of the ilium and the peritoneum dissected up till a place is reached where the peritoneum is adherent to the tumor, which should then be carefully opened, the pus evacuated, the sac washed out, and drainage-tube introduced without opening into the free cavity of the peritoneum. If it is about the gall-bladder, if the signs of pus can be made out, an incision over the sac should be made and the pus evacuated.

If the general symptoms are severe and no localized centre of pus made out, then an incision should be made in the median line and the peritoneal cavity explored with the index finger. If then a pus-sac is found, if it be so situated that it can be reached by another lateral incision and the pus evacuated without allowing the pus to escape into the free peritoneal cavity, it should be made, and the median incision closed. If it cannot be reached by a lateral incision where the wall of the sac is adherent to the abdominal wall, then the pus should be drawn off from the sac by an aspirator or trocar, and the cavity washed out clean with an antiseptic solution before it is freely opened, and a drainage-tube inserted.

If signs of general peritonitis show themselves, that is by vomiting, obstinate constipation, tympanites, etc., then a free incision should be at once made in the median line and the starting-point of the peritonitis found if possible. If it is over the cæcum an incision should be made over it, and the pus washed out by means of hot water of a temperature of 110° to 115° F., run from a large fountain syringe with a large-sized glass drainage-tube attached to the rubber. After the free pus about the cæcum is well washed out, several fingers, or the whole hand should be put in the abdominal cavity and the intestinal adhesions broken up, and all puddles of pus completely washed out. Then a glass drainage-tube should be introduced into each opening and the wounds closed around them, etc.

In pelvic peritonitis, as a rule, the operation is not necessary to save life; but it may be, and it is better to operate during the first attack, if there are symptoms plainly indicating the formation of pus, for the adhesions are much more easily broken up, and more complete removal of the diseased organ can be done than after contraction and dense adhesions have formed, as they do after repeated attacks of inflammation. Besides, dangerous pelvic abscesses are avoided and the bad influence of chronic invalidism are prevented. Of course, I refer to severe cases of local peritonitis, where there are symptoms either subjective or objective, indicating beyond reasonable doubt the presence of pus.

In typhlitis the operation should be done before the fourth day, the earlier the better, so as to prevent the chance of rupture and septic general peritonitis, which is, as a rule, attended by so much shock that no operation can do any good. As a rule, general peritonitis from rupture of a septic abscess is likely to be attended with more shock and rapid failure, and death, than peritonitis from direct perforation.

In all cases of general peritonitis an exploratory incision should be made as early as possible, after trying to lessen the tympanites. If an exploratory operation does no good, it is not likely to add much to the danger.

There may be cases of idiopathic peritonitis, but I have never seen one proved by anything to be relied upon. Certainly in septic peritonitis, where shock is not too great, free opening, washing out, and drainage will cure some cases. It helps, if it does not cure, tubercular peritonitis, and exploratory incision has proved to be, in the hands of experts, almost entirely free from danger, and it must become the practice in almost all cases of general and severe cases of local peritonitis where there are marked symptoms of the formation of pus, an extension into a septic peritonitis, or intestinal obstruction. Many cases of local peritonitis due to salpingitis may never necessitate a laparotomy, for they often become encysted, and give comparatively little trouble. Not infrequently the symptoms due to a severe metritis, where the peritoneum covering the enlarged and inflamed uterus becomes so sensitive as to give in a marked degree almost all of the symptoms of a peritonitis due to salpingitis, and repeated attacks of this kind are often mistaken by good physicians for genuine cases of salpingitis. But I am referring here to cases where a distinct tumor can be felt in the broad ligaments, accompanied by other symptoms indicating the formation of pus, which, when not operated on, rarely fails to cause a general peritonitis, and kills or makes the patient a confirmed invalid.

In typhlitis the diagnosis is, as a rule, comparatively easily made, and I believe it will soon become the general practice to operate early in all well-marked cases.

What I wish to especially advocate to-night is early operation in cases of general peritonitis, both those starting from a local peritonitis and those due to the escape of septic matter into the peritoneum, and to make it plain that to succeed in such cases it will not do to merely open the belly, allow pus to escape, put in a drainage-tube or gauge, and leave intestinal adhesions causing obstruction to remain to kill even more certainly than septic poison, or fail to empty and wash out all puddles of septic fluid encysted among the coils of intestines; but we must make free incisions large enough to introduce the hand, to break up all adherent intestines, and freely wash the whole cavity of the peritoneum and put in two or more drainage-tubes. Without question, many cases where the patients are debilitated weeks before the starting of the peritonitis, and in those cases where the septic poison is too virulent to be successfully washed out, our patient will die in spite of an early operation. But are the chances of this class of cases getting well lessened by the operation? I think not. Death may be hastened, but that is all. But the majority—the large majority—of cases of general peritonitis taken early are not in this desperate condition, and yet, if not operated on, at least four out of five die. Probably many of you may think that the two cases of general peritonitis that I have just reported were mild cases, and some will think that they would have recovered had no operation been performed; but recollect that one was operated upon only a few hours after the septic abscess had ruptured, and the other within seventy-two hours after the not so septic contents of his intestines had escaped into the peritoneal cavity. I did not wait till they were in a desperate condition, but they had every symptom of general peritonitis, and, had you been present and seen in the cavity of the peritoneum as I did, the amount of pus and of lymph breaking down into pus, and the condition of the intestines, you would not doubt my statement. The second case had complete intestinal obstruction, and the characteristic spinach green vomit.

THE MINERAL WATERS OF AIX-LES-BAINS AND MARLIOZ—PRACTICAL CONSIDERATIONS ON THEIR ACTION AND APPLICATION.[1]

By L. BLANC, M.D.,

AIX-LES-BAINS, FRANCE.

THE town of Aix-les-Bains is situated in one of the most picturesque alpine valleys, on the border of Lake Bourget, and surrounded by mountains which shelter it from north and east winds. The climate is mild, the average temperature being 55° F., and the vegetation nearly the same as that of the south of France.

The medical history of the town is of ancient origin, for, besides the temple of Diana, the arch of Campanus, the Roman baths and monuments which still exist, traces of numerous baths, swimming baths, and Latin inscriptions have been found in digging for the foundation of the new baths; all of which tends to show that under the Roman government the thermal establishment was highly important.

At present the bathing establishment is one of the most important in Europe. It is situated in the eastern part of the town, at an altitude of seven hundred and eighty-six feet above the level of the sea, and on a hillside, and is divided into three successive stories or terraces, which have been utilized for the application of the waters.

There are fifty-one douche-chambers where the douche is given by one or two persons, called *doucheurs* or *doucheuses*, two needle douches, three local douches, four vapor local douches called *douches Bertholet*, two vapor boxes for the whole body, sixteen vapor baths called *bouillon*, ten of them attached to douche divisions and supplied with natural vapor coming from the springs, forty-eight bath-rooms, ten of which adjoin douche-rooms, six swimming baths, two of them especially for children, and one reserved for skin complaints. There are two inhaling-rooms, one of which is provided with contrivances, called *tambours* and india-rubber tubes, to convey vapor to the lungs, eyes, ears, process termed *humage*, four foot baths, and three free drinking fountains.

Each douche is provided with numerous apparatus, of which the most remarkable is the mixing box, *boîte de mélange*, arranged so as to distribute the water during the douche at an unvarying temperature and pressure.

The douches bear various names, and vary in nature. Some are supplied with hot water only, some with hot and cold water, some with the two hot springs and cold water combined. The ventilation varies according to the douche. The pressure of the water varies from eighteen feet to forty-two feet.

In fact, the physician has at his command all the advantages of varied apparatus, temperature, ventilation, and pressure, which enable him to modify at will physiological results and to guide his patients through the course of treatment, thus avoiding mishaps which might occur in any establishment not so well fitted up.

Added to so complete a system of douches with natural hot mineral water, is the massage (shampooing), which is performed with rare skill by doucheurs who each year are specially instructed in the art, both in theory and in practice.

The massage, owing to the immense quantity of water to be had at will, is done with the aid of a continuous flow of water which gives to the *Aix-douche* its special feature. But, to understand well, it is necessary to give an exact description of the douche.

This is how it is administered: The bather being seated on a chair, the water falls on all parts of his body successively, with more or less force or volume, according to the prescription of the physician. Two doucheurs during this time rub the skin, shampoo (or *massent*) all the muscles, and make him move his different joints in every direction. This operation, which lasts from five to fifteen minutes, being over, the bather is wrapped in a flannel gown, sheet, and blanket. Once in this *maillot*, as it is called, he is placed in a sedan chair, conveyed to his house, where a warm bed awaits him, and there is confided to the *sécheur* of the house, who wipes him down, leaves him more or less time in the *maillot*, and gives him some mineral water, or other beverage to drink, according to the directions of his doctor.

By this manner of administering the douche, it is seen that the attentions with which the bathers are surrounded at the establishment are continued in their residences.

At other times, after the douche the bather, well dried and wiped, takes a walk, and brings on the reaction by exercise.

This douche may be infinitely varied with regard to the massage, the temperature, the volume of the waters, or the force and direction of the fall. The massage may be exercised partially, or on the back of the body in general, the head excepted; it may be more or less energetic; it may be accompanied by friction with the hands, or by brushes.

As regards the temperature, the douches may be taken from 61° to 116° F. The bather may pass insensibly from one degree to the other, as he may pass abruptly from an elevated to a low temperature, and *vice versa* (*douche écossaise*).

He may also be subjected to different temperatures at once. He may receive, for instance, hot water on the feet, tepid on the shoulders, and cold on the head. The bather may receive water on all the body, in torrents or in feeble quantities. This water may fall with force in jets, in sprinkling, or in streams; it may be conveyed by pipes furnished with tubes having larger or smaller openings, or terminated by a sprinkling-rose with holes more or less fine.

It may be directed horizontally to the hip, or douches

[1] Address delivered at a meeting of the Academy of Medicine, in New York, on Thursday, January 2, 1890.

may come from below upward to the perineum (*bec de corbin*), or vertically, that is to say, in any direction.

Finally, the pressure of the water may be varied infinitely, as I have shown above.

From this variety in the administration of the douches arises the action which I call mechanical, and by which we may produce physiological effects, sometimes stimulating, sometimes sedative, sometimes disturbing, at others revulsive—in a word, which can be modified infinitely.

Two thermal sources supply these douches, vapor baths, etc., one called sulphur, the other alum (though containing no alum), to the great amount of nearly one million of gallons in twenty-four hours, to which are added half a million of gallons of plain cold water.

Both springs are sulphurous, and contain sulphuretted hydrogen in equal quantities, besides several other elements, such as carbonate of iron, carbonate of magnesia, lithia, etc. There is an organic matter called *glairine*, which makes the water very soft, and is a great help for good massage. The temperature varies from 112° to 116° F. (they mark 4° by the sulphydrometer Dupasquier).

There are one hundred and ninety-two men and women employed in this extensive and important establishment, eighty four of them being masseurs or masseuses.

A variety of physiological effects are produced at the same time, through so thorough and so varied a treatment. Besides the special action of the water itself, well known as most beneficial in cases of rheumatism and gout long before the introduction of the present forms of apparatus, results of a very different nature are obtained by the combined action of the douche with massage, such as an exciting, a sedative, or a revulsive effect; but the principal one is the regulating of the organic functions, such as the circulation of the blood, and the appetite. By this means we remove the morbid conditions which are the chief causes of the two principal diseases for the cure, or benefit, of which Aix is famed, viz., rheumatism and gout. In a word, more or less of uric acid is eliminated as long as the treatment lasts, as has been proved by the works of Dr. Monard and Dr. Forestier.

The mechanical action of the massage and physiological movements in water or in vapor accounts for the successful results obtained in diseases of the joints, whether constitutional—hydrarthrosis, arthritis, etc., or arising from an accident or after an operation—contusion, fracture, wounds, dislocation, etc.

In these affections medical intervention is indispensable to direct the doucheurs in the operations; the *massages*, the movements especially, must be watched with greatest attention. It is for these reasons that the physicians at Aix are accustomed to stay in the bath establishment from 6 to 11 A.M. every day.

Though not mineral to a high degree, the waters of Aix, with help of those of Châlles, and particularly of Marlioz, which forms part of Aix, are made use of in catarrhal complaints, in those of the lungs, and also in skin diseases which require strong sulphurous thermal treatment.

The hydro-therapeutic treatment of Aix (douches and swimming baths, together with drinking the water of Marlioz, which are highly charged with iodine and sulphur, as well as breathing the vapor arising from these waters) forms a potent cure for children suffering from bronchial swellings, or from repeated bronchitis, which lays so ready a basis for consumption.

It also triumphs over syphilis or disorders arising from mercurial poisoning. In a work published in 1887, I have laid down in a precise manner the indications for the use of sulphur in the treatment of syphilis. The conclusions at which I arrived are the following:

1. Sulphur and sulphurous combinations do not themselves cure syphilis, but they have an incontestable influence on the complications of this disorder.

2. By their stimulating action they draw to the skin the syphilitic manifestations, and consequently facilitate the diagnosis and direct the physician in his therapeutics. They act on the organism during a course of mercurial treatment in many ways, by carrying the medicaments to the parts where the evil exists, that is to say, by producing the elimination of the mercury through the skin, by opposing the mercurial accumulation, and consequently the accidents which spring from it, diarrhœa, stomatitis, cachexia, and curing them when they have been produced.

3. By the cutaneous irritation which they produce, the sulphurous combinations have many effects. They accelerate the circulation of the blood and lymph, especially when scrofula is at work; thus they dissipate the ganglionic obstruction, and in fact they promote the reconstitution of the blood.

4. If such patients have rheumatic or gouty symptoms, syphilis and the other constitutional disease can be cured together.

It would take too much time to repeat here the experiments I made; at this time a summary will suffice.

If we pour a solution of hyposulphite or sulphite of sodium on a precipitate of albuminate of mercury, this precipitate is invariably dissolved.

The same phenomena take place in the human body.

In presence of alkaline salts and oxygen, the sulphur absorbed is transformed in the blood into hyposulphite and sulphite, which, when brought into contact with the albuminate of mercury fixed in the body, dissolve it and facilitate its elimination. I have taken, in fact, two classes of patients, whose urine I have examined every two or three days for a period of twenty days:

1. Patients undergoing at the same time the thermal and mercurial treatment. With these patients the results have always been positive, that is to say, mercury has always been found in the urine in an appreciable quantity.

2. Patients who have not taken mercury for one, two, or three months. I have examined the urine four or five days before commencing the sulphur treatment, and I have found no traces of mercury in the urine. I have afterward prescribed the sulphur treatment, *intra et extra*, and after a lapse of time varying from four to eight days, I have found with two-fifths of the patients treated mercury in the urine; which proved in a manner absolutely certain that mercury had accumulated in the body, and that this mercury was eliminated under the influence of the thermal sulphur treatment.

Reviewing a series of 1,000 patients during five years, I find:

Rheumatism	453
Gout	94
Diseases of the joints	102
Sciatica	61
Pharyngitis, laryngitis, and bronchitis	59
Syphilis	48
Metritis	27
Neuralgia	12
Gastralgia, dyspepsia	13
Cutaneous complaints	23
Various nervous complaints, palsy	24
Old bruises and broken limbs	36
Myxœdema	4
Various—contraction of the tendons, paralysis, ozæna, phlegmasia alba dolens, glycosuria, lead-poisoning	33
	1,000

As it is easy to see, the more important diseases treated at Aix are *rheumatism* and diseases of the joints in all their forms, from simple rheumatoid pains to the most severe rheumatoid arthritis, as well as all the complications which form part of the maladies—neuralgia, sciatica, dyspepsia, gastralgia, pharyngeal, bronchial affections, and even cardiac complications.

In speaking of *gout*, I refer principally to chronic gout of the joints, but also to gout which manifests itself in cutaneous eruptions, and to those cases called suppressed gout, in which the circulation of the blood is low, and the manifestations of the gout itself very inactive.

In speaking of the treatment of rheumatoid arthritis, Dr. Garrod says that waters which have been found very beneficial in rheumatoid arthritis are those of Aix-les-

Bains, at which place the douche is a very important part of the treatment.

In another book, Sir Alfred Garrod says: "1. Reviewing the results in the very numerous cases sent by me during the last twenty or more years, I am strongly of opinion that more benefit has been derived from the treatment at Aix than would have been received at any other spa I am yet acquainted with 2. That in many diseases of the stomach, liver, bladder, etc., the value of several other courses would often exceed that of Aix-les-Bains. 3. That in rheumatoid arthritis—the rheumatic gout of old writers—the value of the Aix-les-Bains course far exceeds, according to my experience, that of any other known spa. 4. That in many other articular affections, such as gout and rheumatism, the Aix course is very valuable, but not to the same extent as in rheumatoid arthritis; and that an equal benefit may often be received from some other mineral water treatment."

As for the other diseases I have mentioned above, it is easy to understand the successful effect obtained by combining the mineral waters of Aix-les-Bains and Marlioz; the temperature of the waters and the various manners in which the process of douching is performed, the varied and powerful system of hydro-therapeutics made use of, produce the therapeutical and physiological results above mentioned.

The establishment is open all the year round, but the most favorable time for undergoing a course of treatment is from May until the end of October.

I must add that the town of Aix-les-Bains, apart from the spring, is a healthy resort. The mildness of the climate, the varied excursions which can be made on the mountains, lake, etc., and the distractions found in the town, form useful agents in the cure of many ailments.

The waters of Marlioz, to which I have several times referred, are situated half a mile only from Aix, and contain sulphur, iodine, and bromine, and several alkaline salts. The bath establishment of Marlioz contains two large inhaling-rooms, nine bath-rooms, eight complete apparatus for atomized spray inhalation, a cold douche, four hip douches (*douche de siège*), two ascending douches, and two drinking fountains.

The alkaline waters of St. Simon, which are about equally near, can well replace the waters of Contrexeville, Vitel, and Evian, in the treatment of kidney diseases.

THE PHYSIOLOGICAL TREATMENT OF OBESITY.[1]

By WALTER MENDELSON, M.D.,

NEW YORK.

The practice of medicine is—even at its best—so empirical an art, the limitations of our best endeavors, when measured by our aspirations, are everywhere so narrow, that we should always be prepared to hail with joy any one department in which we discern *some* prospect of advancing with anything like scientific accuracy.

Though pharmacology has made great strides in the past decade, though we are well acquainted with the physiological action, and even with the therapeutic value, of drugs; yet, compared with the vast amount of labor already expended, how small, on the whole, is our success in combating disease by pharmaceutical agents.

I have selected *Obesity* as a topic for discussion to-night, because it seems to me that it is a subject upon which some definite and accurate knowledge is already at hand. Knowledge which may be called scientific, because, if the necessary conditions which it imposes be fulfilled, it will enable us to predict what will happen with a certain and, indeed, not inconsiderable, degree of success.

Physiological chemistry—great as are the triumphs already achieved—is still in its infancy. And while much that we now think we know regarding the processes of nutrition and of waste, will, in the future, be revised or even cast aside, yet sufficient data regarding obesity seem to have been now obtained to justify a basis of action.

In order to gain an intelligent insight into the nature of obesity, it is necessary to have, at least, a general idea of the laws relating to the processes of nutrition.

The body has often been likened to a machine. The food being the fuel, whose consumption becomes manifest in the liberation of energy—of work. But with this difference: that in the body the food is not only the source of energy, but that it also replaces the tissues which are necessarily consumed during the expression of this energy.

Hence, while in the machine, only one kind of food—fuel—is needed, whose oxidation produces heat, and that, motion; for the body, foods are needed which not only serve the purpose of liberating energy by being oxidized, but which also are capable of being transformed into integral parts of the constantly wasting, and constantly growing bodily machine itself. Consequently, we may distinguish two kinds of foods—or rather, two functionally different foods—"fuel foods" and "tissue foods."

Of the chemical changes going on in the body, it may be said that they consist in general of decompositions and oxidations. In consequence of these processes relatively complex, slightly oxidized, and hence unstable compounds are converted into relatively simple, highly oxidized, and therefore stable bodies. For example: the relatively complex albuminous, saccharine, and fatty substances are changed mainly into the far simpler compounds, urea, water, and carbon dioxide.

And, concomitant with these changes of chemical form, we have latent energy liberated, whose freedom, becoming potentially manifest, expresses itself in all those various phenomena—muscular contractility, animal heat, nerve action, secretion—which, in their totality, make up that which we term Life.

The various articles which compose our dietary may be almost endlessly extended in number. Yet they can all be brought into one of three classes, namely: 1. Nitrogenous, albuminous, or proteid foods. 2. Carbohydrates, or starches and sugars. 3. Hydrocarbons, or fats.

Experience has shown that under ordinary circumstances, and in the temperate zone, health is best preserved when the diet consists of a combination of all three of these classes. No fixed amounts applicable to every person and to all conditions can be given regarding the absolute quantity to be ingested, for the measure of food required will vary as circumstances arise which require the expenditure of much or little energy. But it has been found that, on an average, 130 grams of albumin (equivalent to 1¼ pound of meat), 84 grams of fat (3 ounces), and 404 grams (13 ounces) of carbo-hydrates are consumed daily, and that the proportion of the albuminous to the non-albuminous foods ingested is about 1 to 3¼ or 4.

The study of the causes of the deposition of fat in the body is one of the earliest that engaged the labors of physiologists, our views having become modified with each increase of knowledge.

After Chevreul—who recently died a centenarian—showed, quite early in the century, that the same substances occur in the fats of animals and of plants, it was thought that deposition was the result of a mere transference from the plant to the body of the excess of fat taken in the food.

The studies of Liebig gradually modified this idea, and it was then believed that the body fat was formed directly from the starches and sugars ingested.

More recently, Pettenkofer and Voit have shown that the albumin of the food is at least the *principal* source of the fat formed in the body. The albumin of the food undergoes, after it has reached the cells of the tissues, certain chemical changes by which part of it is converted into fat, and part goes to the direct nutriment of the

[1] Read before the Section on Theory and Practice of Medicine of the New York Academy of Medicine, January 21, 1890.

tissue-cells. According to Voit[1], 51.5 grams of fat can be formed from 100 grams of albumin.

Many exact experiments have been made which prove this formation of fat from albumin. Thus, dogs fed on lean meat, and maggots on blood, accumulated considerable fat. A dog fed on lean meat and palm-oil, which contains no stearic acid, stored up fat having the usual amount of stearic acid normal to dog's fat.

The fatty degenerations of the organs following phosphorus poisoning, and the fatty condition of the uterus during involution, are familiar instances of fat being one of the decomposition products of albumin.

It is not, however, as though *all* fat were formed from albumin. A *certain amount* of that taken as food is undoubtedly stored up. But the increase of body fat occurring after eating much fat—though in part a direct result—is chiefly brought about indirectly, the food-fat shielding from oxidation that which has been formed from the albumin ingested.

Thus, when a dog is fed on meat and mutton suet, it gains in body fat. Not because the mutton suet is changed into dog's fat, or is deposited as suet, but because the more ready oxidation of the suet prevents the fat proper to the animal's tissues from being destroyed.

It is in the same indirect way that the carbohydrates act. Ordinarily the starches and sugars are not themselves converted into fat. Only when taken in abnormally large quantities does this seem to occur. But when taken as food, along with albumin, they, being more easily oxidizable than the tissue fat, by preventing the latter from being consumed, give rise to an accumulation.

To sum up—we see that there are three sources from which fat may be derived for the body: First, from that resulting from the splitting up of the albumin of the food; second, from the transfer of that fat ingested as food; and third, probably from fat formed from starches and sugars when these are taken in large quantities.

Now, having seen the sources from which the body manufactures its fat, it next remains to inquire into the conditions under which this fat tends to be hoarded up in the tissues of the economy.

Up to quite recent times it was the general belief that the oxygen taken into the blood from the inhaled air was the direct factor concerned in the many chemical decompositions going on in the body. And, in consonance with this view, it was held that fat accumulated from more of it being formed than the oxygen could consume; either excess of food-supply or deficiency of oxidation being ascribed as the causes of obesity.

But, alas! seductively simple as this hypothesis appeared, and satisfactorily as it seemed to account for many of the conditions whose existence it was called upon to explain, it has had—like so many plausible explanations—to be relegated to the limbo of errors. It is but another example of the observation to which all of us must have been often led, namely, that the most obvious and plausible explanations of natural phenomena are also almost invariably incorrect. Indirection seems to be a basic principle in the operation of natural law—evolution furnishing its most magnificent example.

Following on the lines first laid down by Rudolf Virchow, that the cell is the somatic unit, we now know that all the metabolic phenomena of the economy have their seat in the cells—that all cells have inherent in them the power of splitting up relatively complex chemical compounds into bodies of simpler composition. And while we are as yet unaware of the processes by which the cell effects these decompositions, we *do* know that the oxygen in the tissues is but indirectly concerned in them. The body being but an aggregation of cells, other things being equal, the more cells an organism contains, the greater will be the amount of chemical change performed.

Certain external agencies have the power of modifying the chemical powers of the cells. Among those that diminish may be instanced quinine, alcohol, morphine, low temperature, and deficient food-supply (including oxygen), while excess of food-supply, the changes consequent to fever, high temperature, and muscular activity increase them.

Now, the disintegrability of the different classes of foods brought to the cells varies widely. And the causes of obesity, and its treatment on physiological grounds, can only be fully understood when these differences are known and given their due value.

Experiments have shown that of the three great classes of food—the proteids, the carbohydrates, and the hydrocarbons—the one most easily split up is that of the proteids. The carbohydrates are next in ease of decomposition, while the fats are most resistant.

If proteid food alone be ingested, the soluble albumin carried to the cells is there, in part, converted into the tissue-albumin of the organ formed of the cells, and in part changed into fat and other products. All of which will tend to be split up into still simpler bodies till the power of the cells becomes exhausted.

If now, in addition to proteids, fat be ingested, the decomposition of the proteids will go on as before, but the food-fat, being more readily oxidizable than the tissue-fat formed from the proteids, will shield the tissue-fat from destruction, and, at the same time, preserve the tissue-albumin from destruction as well.

Thus indirectly, and in a double way, the food fat leads to a storing up of fat. Firstly, by affording a more easily oxidizable substance for the liberation of energy than tissue-fat; and secondly, by preserving the tissue-albumin from destruction there results greater chemical activity of the cells, more active elaboration of the food-albumin, and, as a result, both increased growth of the cells and increased manufacture and storage of the fat made from the albumin brought to them.

An analogous process obtains when the carbohydrates, in their soluble form of glucose, are fed to the cells together with albumin. The sugar is more easily decomposed than the fat, and may, if present in sufficient quantities, so absorb the energies of the cells as to shield the cells and the fat from destruction, and thus give rise to an accumulation of the latter.

Rubner, working in Voit's laboratory, has determined that the following quantities of the food classes are equivalents—are *isodynamic*, as Voit terms it—that is, that in their decomposition into carbonic acid and water each yields an equal quantity of energy measured as heat:

Fat	100 grams.
Albumin	211 "
Starch	232 "
Cane-sugar	234 "
Glucose	256 "

Now, it will be apparent, from an examination of this table, that an accumulation of fat will most readily occur when the diet contains an overplus of fat; because, while least in quantity, fat has the highest equivalent—next, when containing an overplus of albumin; and next of carbohydrates.

Suppose an individual required per day, to keep his fat and flesh unchanged,[1] 118 grams of albumin, and 259 grams of fat; 118 grams of albumin, being equal to 18 ounces of meat.

Were he to take albumin alone, he would require, per day, 664 grams of albumin to retain a constant weight. This amount represents six pounds of meat per day, a quantity impossible to consume, the intestinal canal being unequal to the task of digesting and absorbing so large an amount.

Were he still to take the original 118 grams of albumin, and exclude all fat, 600 grams—or 1¼ pound—of starch would have to be taken at the same time.

On a mixed diet of all three classes of food, he would

[1] Voit: Ursachen der Fettablagerung. München, 1884.

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take: 118 grams of albumin, 100 grams of fat, and 368 grams of starch.

Any excess in any one of these three classes—supposing, of course, that the mode of life remains unchanged—must lead to an accumulation of fat in the body.

Now, ordinarily of course, no man habitually eats meals composed either of any one, or even of any two of these food classes. But his diet will consist of the usual combination of all three. And while, therefore, it could hardly happen that an overplus of fat would form even were an individual confined to any two of these classes—for lack of appetite from too monotonous a diet would prevent it, if nothing else did—it can very well happen that on a mixed diet containing plenty of fat and starches, a little more albumin than is needed to maintain the equilibrium of flesh and fat, may be ingested.

And it is the fat formed in the cells from this surplus albumin which—since it is protected from oxidation by the food-fat and starches—accumulates little by little in the tissues, and gradually leads to obesity.

A man need not necessarily be a glutton to grow stout. It is the slight excess that may daily be taken in the food, which by a gradual increment stores up the fat in the tissues. Nor would even this be sufficient in all individuals. Certain contributory causes often exert a powerful influence in the genesis of obesity, and when these, from any reason, come into play an individual may grow fat, though, as he will tell you, he eats even less than formerly.

Anything which lowers the oxidizing powers of the cells will have this effect, such as free use of alcohol; lack of exercise; living in close, hot rooms; a diet whose insufficiency in albumin lowers the vital powers of the cells; various pathological conditions, such as heart disease and other causes of impaired circulation; chlorosis, etc.

And then—and to this cause the most marked cases of obesity are certainly chiefly due—we must not forget that some individuals have a predisposition, seemingly inborn and often inherited, to grow fat.

It is a fault of the cells, analogous to those aberrations which in some persons produce more uric acid than is normal, which in others lead to glycosuria and diabetes, and in others again to the production of cystin. Other individuals, no matter how much they may eat and how little they may exercise, never grow fat.

These same peculiarities show themselves in animals as well as in man. Who ever saw a fat greyhound, or a lean pug-dog?

Hence in treating obesity the individuality of the patient must be kept well in mind. In general, we are inclined to associate with fatness a certain indolence of mind as well as of body, an inclination to be unenergetic and phlegmatic—as Prince Henry says to Falstaff: "Thou art so fat-witted with drinking of old sack, and unbuttoning thee after supper, and sleeping upon benches after noon." And yet it may well be questioned whether these qualities are not the effect rather than the cause, of obesity. Many instances might be cited of stout men being the contrary in disposition. Two of the most shining examples of intellectual industry and acumen that now occur to me were very stout men, Gibbon and Buckle.

Nevertheless, we are inclined to associate leanness with a nervous, keen, and intellectual temperament; activity of mind seemingly going most often with a condition allowing of activity of body. Shakespeare illustrates this popular feeling when he lets Cæsar say to Antony:

> "Let me have men about me that are fat;
> Sleek-headed men, and such as sleep o' nights:
> Yond' Cassius has a lean and hungry look;
> He thinks too much: such men are dangerous."

Having now reviewed the chief factors concerned in the manufacture and deposition of fat in the body, the means to be adopted for preventing an accumulation will have become evident.

Our aim must be to make the production not exceed the consumption, and where a surplus exists, consumption must for a time exceed production.

In the great majority of cases (in spite of the protestations of fat people to the contrary), ingestion of too great a quantity, or of an improper quality, of food, often combined with too little exercise, is the cause of obesity.

It remains therefore for us to suitably regulate the diet and exercise; bearing in mind that the change we wish to bring about, to be beneficent, must be gradual; that the cells must be educated by degrees to the new duties we wish them to perform; that anything approaching starvation—like the Banting cure—is to be condemned.

With regard to diet, it must be our general plan to give much albumin, and relatively little non-nitrogenous food. And we do this in order, firstly, that the cells, from the abundance of nourishment brought to them, shall be capable of great chemical activity; and, secondly, that the tissue-fat thus necessarily formed shall not be preserved from oxidation by the presence of the more readily oxidizable food-fat and starches.

But we must always keep in mind that, as the fat of the body becomes by this process gradually reduced, the diet must undergo a corresponding change, more and more of the non-nitrogenous foods being allowed as the body grows relatively richer in albumin and poorer in fat. For, unless this be done a point will be reached where not only the fat of the body, but the albumin as well, will be consumed, and the patient, after feeding thus on his own muscular and glandular tissues, will begin to complain of weakness and lassitude.

This is the error of the Banting cure, prescribed to Banting by Dr. Harvey, of London. Banting himself states that he had to discontinue treatment every little while, in order to regain strength. The Banting diet prescribes enormous quantities of albumin, with an almost total exclusion of fats and carbo-hydrates. As before stated, it is impossible for a human being to take sufficient meat, eggs, etc., to cover the destruction of fat necessarily occurring, hence the muscular tissues soon begin to waste as well.

Voit gives the following quantities as required for nourishment without the accumulation of fat:

	Albumin.	Fat.	Carbohydrates.	Fat equivalent.
For a hearty workman....	118	56	500	678
" well-to-do doctor...	127	89	362	576

And Oertel[1], who has, as you know, given the subject the closest of study, gives the following minimum and maximum amounts per day for reducing fat:

	Albumin.	Fat.	Carbohydrates.	Fat equivalent.
Minimum.....	156	22	72	127
Maximum.....	170	44	114	173

In accordance with these figures he has prepared two diet lists. And the following diet list is one that I have made up as an average of his two, and also somewhat modified for American habits. But I must beg of you to bear in mind that such a list is only to serve as a *general guide* to the patient to whom it is to be given. No absolutely hard-and-fast rules can be laid down, and patients under treatment should be seen—and weighed—from time to time; increasing one kind of food and diminishing another as occasion demands.

Diet List for Reducing Fat.—*Breakfast:* 1 cup (6 ozs.) tea or coffee, with milk and sugar. Bread, 2½ ozs. (2 or 3 slices). Butter, ½ oz. 1 egg or 1½ oz. meat.

Dinner: Meat or fish, 7 ozs. Green vegetables, 2 ozs. (spinach, cabbage, string beans, asparagus, tomatoes, beet tops, etc.). Farinaceous dishes, 3½ ozs. (potatoes, rice, hominy, maccaroni, etc.), or these may be omitted and a corresponding amount of green vegetables substituted. Salad, with plain dressing, 1 oz. Fruit, 3½ ozs. Water, sparingly.

Supper or *Lunch:* 2 eggs, or lean meat, 5 ozs. Salad (radishes, pickles, etc.), ¾ oz. Bread, ¾ oz. (1 slice). Fruit, 3½ ozs. Or fruit may be omitted and bread, 2

[1] M. J. Oertel: Kreislaufs-Storungen. Leiprig. 1885.

ozs., substituted. Fluids (tea, coffee, etc.), 8 ozs. No beer, ale, cider, champagne, sweet wines, and spirits. Claret and hock in great moderation. Milk, except as an addition to tea or coffee, only occasionally. Eat no rich gravies, and nothing fried.

Remember that your patients should always feel *better* —never worse—under treatment. That lassitude and fatigue are signs that the muscular tissue, as well as the fat, is being reduced, and that more non-nitrogenous food must then be allowed.

Above all, never yield to the wishes of the patient to grow thin *quickly*. All reforms, to be lasting and beneficial, must be slow in action, they must be the result of education, they must be a growth from within, not an impress from without. And the cells of the body, in their infinite diversity of occupation resembling the citizens of a state, can by slow degrees be habituated to better things, to change their vicious mode of action to one harmonious with the welfare of the commonwealth. And when this education has once been established, continuance becomes a mere habit.

In all that has been said, no allusion has been made to that form of obesity connected with heart disease. I have preferred to confine myself in this paper to the pure, uncomplicated type, hoping, perhaps, that in the discussion that may follow, this phase of the subject may be dealt with.

In conclusion, let me say that the ideas underlying this sketch of the physiological basis of the treatment of obesity have been taken from the writings of Voit, of Oertel, of Munk and Uffelmann, of Ebstein, and of others.

NEUROTIC TUMORS OF THE BREAST.[1]

By E. P. FOWLER, M.D.,

NEW YORK.

In 1865 a case came under my professional care, the incidental outcome of which fixed my attention upon a variety of malady that before was unknown to me. The disease consists of mammary tumors, apparently dependent upon uterine or ovarian conditions, inasmuch as they seem to be curable by treatment of the womb and its belongings. The matter will best be put, perhaps, by the description, the treatment, and results of seven cases, the records of which I have preserved.

Case I.—J. M. S——, record of 1865. The subject was a girl, aged twenty-two, above average height, slight in person, most profuse auburn hair, large, dark eyes, almost black eyebrows and eyelashes, very full lips, Grecian style of profile, and high color. Her natural abilities intellectually were decidedly above the ordinary, her emotional nature extreme. She seemed to be a natural religious devotee, and since a broken love affair, some two years before, almost a religious monomaniac. At various times the girl had been the subject of hysteria. The father, and several in his family, were epileptics of a mild form, but they generally were endowed with unusual mental brilliancy. Menstruation had been quite irregular with the patient, the intervals varying from two weeks to two or three months; always free and always painless, excepting an invariable discomfort—hardly a pain—in the left breast and a soreness in the right one. The patient described a pain in the region of the ovaries, as a "never-ending" one. In the left breast, above and to the outside of the nipple, there was an ovoid body, apparently about two inches in diameter by three in length. It was quite hard, and seemingly without attachments.

On examination much complaint was made of exquisite pain, which was greater when the touch was slight than when firm; this symptom was so marked, that satisfactory examination could not be effected until the subject was so placed as to be unable to draw away. With all this tenderness to conscious touch it was plain to be seen that the dress worn by the girl was very close-fitting. I examined the axilla for glandular enlargements, and while so doing observed that the pressure of my wrist, which her clothing compelled to rest somewhat heavily on the tumor in the breast, was not complained of. She stated that the examination gave pain in the axilla, yet there was no swelling whatever of the glands, nor did I find glandular enlargements in any other part of the body.

Upon inspecting the abdomen the entire surface was hyperæsthetic, notably in the left ovarian region. A light pressure was more complained of than a firm one. Upon increasing the pressure to see how far it would be tolerated, the patient requested a continuance of it, saying that it gave an indescribable sensation of both pain and pleasure. In a few moments she fell into what seemed a deep sleep, only that the commencement of the state was accompanied by irregular respiration, and peculiar facial and bodily movements; these soon subsided, and then the sleep resembled that heavy stupor so often the sequel of epileptic attacks, and for the space, I should judge, of about a half-hour, it was impossible by any means to arouse her. The event gave me a genuine surprise, and for the time no small anxiety, and the mother, who accompanied the daughter, was thoroughly alarmed. Further examination of the case was postponed for two days.

On the second interview, this time at the patient's house, I could by digital examination find nothing out of the normal with either vagina or womb. The womb seemed a little under-sized perhaps, but the difference was not greater than is to be observed in the feet, hands, nose, ears, or any part of the body of different persons. After completing my examination, I again applied firm pressure over the left ovary, keeping a strict time-record of the experiment. At the expiration of a little more than three minutes, the same condition before described came on, the sleep or stupor lasting a little over twenty-five minutes.

The case had already been examined by five different eminent medical men, who were united in the opinion that the tumor should be removed without delay. These concurring opinions and the social standing of the patient made it most necessary, for my own reputation and welfare, that I should give no hasty counsel, and therefore I arranged for another visit, three days later.

After careful thought and industrious search in literature for similar cases I had concluded to substantially concur with the advice already obtained, but when the interview came about I had no opportunity to express my opinion, before the mother rather overwhelmed me with enthusiasm over the unexpected success of my "treatment." I was naturally somewhat puzzled (as I had given no treatment), until I soon comprehended that the vaginal examination had been construed as a "treatment." The girl looked much changed for the better, and averred that the tenderness of the breast and the lower part of the abdomen was decidedly less, and both she and her mother were positive that the tumor was smaller.

I suppose that imagination was doing very much toward finding that which was desired, but examination discovered to me that they were right and that the lump was notably decreased. I had not the slightest supposition that my examination was in any way related to the change, but I could not for the moment muster the moral courage to destroy their happiness and hope by bluntly saying, what I thought, an operation would eventually be necessary. They were urgent that another "treatment" should be made, and as the tumor had decreased, brief expectant treatment seemed justifiable; so I made another examination. This time the digital contact with the uterus produced the same train of phenomena as pressure upon the left ovarian region did before.

The case was under my care between two and three months, visits were made once or twice a week, and the only treatment in any way was a repetition of the vaginal examination. The attending phenomena which I have

[1] Read before the New York Neurological Society, Tuesday, January 7, 1890.

described became less and less; of the tumor, at the end of ten weeks there was not a trace, there was no pain or tenderness in the ovarian region, no hyperæsthesia—in short, nothing abnormal of any kind.

I do not think my experiments produced true sexual orgasm, though they were certainly quite kindred. For a real orgasm the process was too long, though the respiration, the facial and bodily movements were suggestive. During the treatment I discovered that pressure between the upper cervical vertebræ would produce all the described symptoms, though in a lesser degree.

The recovery was permanent. About four years after the lady married, has since had four children; her health is, and has been, generally good. She nurses all her children, who are very healthy specimens, and mother and all are still living.

Case II.—A. N. McC——, a married woman, aged thirty-one, profuse dark-red hair, darker eyebrows, eyes very dark, complexion pale, medium height, and very slight. She strongly resembled her mother, and like her was very hysterical.

She came under my care in 1858, the first year of her married life. Between eleven and twelve years after that she became a widow, never, to her great sorrow, having been enceinte. She had become a resident of Charleston, S. C., when in 1870 she discovered a lump in the left breast which, within the space of seven or eight months, grew to nearly twice the size of a hen's egg, very movable, hard, and sensitive. In 1871 she came on to consult me, but arrived just after I had left for Europe. She took the advice, in turn, of three of the most eminent authorities to be found in New York, each of whom counselled the immediate removal of the tumor. Like all women of similar temperament, she had a fetich-like faith in her regular medical attendant, and the only one who had ever been her regular medical adviser besides myself was Dr. Marion Sims. She at once set out for Europe, but on her way (in London, I think) she saw Dr. Sims, who advised and offered to operate. Declining for the time, she continued her travel, and met me at Vevey, Switzerland. I concurred in the opinion already given, that an operation would probably be necessary, and directed her after a rest to return to New York, in time to recruit there for a couple of weeks before my arrival. When I saw her, at the end of this time, the tumor had somewhat increased, the ovaries were tender, and I do not remember that I ever encountered another case where the cervix uteri seemed so intensely painful to touch, and yet with entire absence of ulceration, inflammation, or misplacement. An examination, less complete than desirable, so disturbed and prostrated the patient as to give me some anxiety, but, notwithstanding this, the improvement shown upon the following day was sufficiently marked to give the patient belief that I had righted some misplacement. The tenderness was so reduced as to permit upon this occasion a very thorough examination. Pressure upon the cervix of the uterus still gave much pain, but the patient said that even the pain seemed to afford a sense of relief. I advised a removal of the tumor in the breast, and even went so far as to make arrangements with a surgeon to perform the operation.

For certain reasons the operation was postponed to the end of three weeks. The second examination seemed to afford an additional relief similar to that experienced from the first one. It seemed evident that there was a benefit, and at the patient's urgent request I continued every second day the manipulation. In addition to the pressure before given, I each time gave the cervix a kind of massage of two or three minutes' duration, that is, a firm rubbing. By the end of twelve days the tenderness of the womb had entirely disappeared, excepting that kind of sensitiveness which is so common to its posterior surface. Along with this came another change, entirely unexpected, but marked and gratifying; the tumor in the breast had become also less sensitive, and to a very palpable degree lessened in size. The condition, entire, strongly recalled the case just described, and as toward the termination of the three weeks the tumor still continued to decrease, I advised a postponement of the intended operation, and continued the uterine massage with intervals of three days. The massage treatment was continued for about three months, though at steadily lengthened intervals.

For nine months, during which the patient was under my immediate care, she took no medicine whatever, unless now and then for a cold, and at the end of that time she left my care in better health than she had been for some years, and with not the slightest trace of the tumor. About eight months after she came to me again, in great trouble, as the tumor had somewhat recurred. The matter assumed a more complicated importance from the fact that she had become engaged to marry again, and she had scruples about fulfilling the engagement, at least without acquainting her intended husband with the entire facts of her case. The marriage was still some months off, so I advised her to remain silent and put her under the same management as before. At the expiration of three weeks the tumor had again disappeared, and treatment was suspended. One month after there were again indications of return. From some observations which I hardly need detail, and reflecting upon the case in all its various bearings, I concluded that marriage would provide all the requisites for a permanent cure, and as circumstances favored it I advised the event at an early date. The advice was followed and the result substantiated its soundness. The tumor never returned, and up to the time I last saw the patient, about one year since, her health had been invariably good. Nine years after her marriage her second husband died of South American fever, and two years later came the menopause, without any uncommon disturbance. She was never enceinte by either husband, though I could discover no reason why she should not conceive.

Case III.—L. C—— was in every respect more peculiar and interesting than the two already recited. She was the daughter of a book-dealer, eighteen years of age, rather tall, slight, gray eyes, most profuse dark-brown hair, very dark eyebrows and eyelashes, complexion clear and ruddy. The breasts were unusually developed, more noticeably as contrasted with her otherwise slight form. She matured at about thirteen, was always irregular in menstruation, which was accompanied by severe womb-colic and fits of hysteria. Some five months before she came under my care the patient had called the attention of her then physician to a lump in the right breast. He considered the thing serious, called counsel, and it was agreed that an operation was necessary, and it was thought also that a portion of the womb, which was found to be very hard, might require exsection. The girl was an only child, the family became greatly alarmed and she completely demoralized; she violently refused to submit to any operation, refused to leave the bed or to take nourishment, fell into extreme insomnia and intolerance of light or sound, and was disposed to reject food within ten or twenty minutes after it had been taken. Upon examination, as she came under my care, I found a tumor of, I should judge, about two inches diameter, nearly round in shape, situated just below and outside the nipple of the right breast. The milk-ducts in the vicinity of the tumor were all distended and hard. There were no glandular enlargements in any other part of the body. The vagina exhibited a decided hyperæsthesia, and in addition to this it possessed a most extraordinary power for contraction; it held the finger as firmly as though grasped by a hand, and in a few moments the womb itself—at first as soft as usual—would become erectile and with an almost bone-like consistency. This contractile stage lasted for three or four minutes, when, with a relaxation and limp condition of the entire body, the patient would sink into a profound sleep of several hours' duration, from which it was difficult to arouse her even to a partial degree. During this period there always was a strong odor, such as is often to be noticed during epileptic attacks. The respiration would average about fifteen, and the pulse about fifty, per

minute; at other times the respiration averaged about thirty-five and the pulse about eighty. I found that this induced sleep could at any time be effected by three or four minutes' (sometimes much less) firm pressure against the neck of the womb.

Since the time the operation had been advised continued natural sleep had rarely exceeded with her thirty minutes. When waking from this induced sleep she for a time yawned and stretched almost continually, and the craving for food was imperious, and almost any kind of food was taken with the utmost avidity, though at all other times—and at all times before the induced sleep had been chanced upon—the repugnance and resistance to nourishment was most serious, and it was very often rejected, something which never occurred after the meals following induced sleep. I did not tell the family so, but they inferred that the results of my uterine manipulations were from opiates which I had applied locally, and that the sleep was an opium-sleep. The two previous cases decided me to avoid all medicine in this instance, and see what could be done by a treatment similar to that pursued with the others.

During two weeks, treatment was given every day, at the end of which time there was a moderate appetite for three meals a day, which were generally retained. There was an average of over nine hours sleep in the twenty-four, four to six of which would uninterruptedly ensue after the treatment. At this point came menstruation—the first in three months—painless, and of four days duration. Three days after the menstrual cessation I resumed the treatment, now every other day. For a full week the induced sleep was neither as profound nor as restful as it had before been. The vaginal contraction and the uterine erectility, which had greatly decreased before the menstruation, had much returned, and in every way the situation seemed a little discouraging. Before the menstruation the milk-duct enlargements had entirely disappeared; now they were present, though less in size. In the tumor itself there had at no time been any change. Two weeks more of treatment and the sleep and appetite were regained, the swelling of the ducts had gone, the tenderness in the tumor subsided, the contractility of the vagina and erectility of the womb almost gone, the mind cheerful, and the entire disposition marvellously changed for the better. At this date and afterward the girl, at each time I saw her, averred that she often felt the tumor move, and her mother said that she had actually seen it do so, and with the hand felt it do so. I failed to chance upon any such occurrence. From this time, however, the tumor began, with varying rapidity, to decrease, until at the end of about seven months there was not a trace of it left.

The menstruation had become regular, painless, and without hysteria; sleep and appetite normal, and the weight had risen from one hundred and three to one hundred and twenty-seven pounds. The breasts were more natural in size, there was no degree of vaginal contraction or uterine erection remaining, and I dismissed the patient from my professional care.

A few months after this the young lady engaged to marry, and there were signs of the whole trouble recurring. I advised marriage at the earliest date practicable, and for the pending month I treated her as before, two or three times per week, under which the symptoms soon vanished.

After marriage she had no more trouble, she has had two living children and one stillborn; ten years have passed, and her health has been uniformly fair, with no return whatever of any trouble in the breast. There was no vaginismus at time of marriage.

Case IV.—A. M. S.—— was an unmarried woman, twenty-four years of age, about medium height, slight build, brown hair and eyes, eyebrows darker than hair, full lips, fully developed breasts, and hips large compared with waist. Complexion was pale. Menstruation occurred before the age of twelve, always irregular and painful, accompanied by severe paroxysms of hysteria. When about nineteen years of age she had an unfortunate love affair, through which her good health was seriously impaired. It was during this time that she discovered a small hard lump at the outer and lower edge of the left breast. In the course of twelve months this had come to the size of an English walnut, and at this time her mother brought her to see me. As in the other cases, I found the tumor very movable and very hard, and also an entire freedom from glandular swellings in any other part of the body. There was the same exquisite sensitiveness to a light touch, more or less over the whole body, but especially over the breasts and the lower abdomen. Firm pressure could be endured, though it caused pain, but a light pressure seemed to induce an uncontrollable nervousness. The neck of the womb was very hard, and the entrance to the canal consisted of a circular opening not more than three-sixteenths of an inch in diameter. My first step was to enlarge the canal, which occupied about three weeks, during which time I gave phosphate of iron and carefully regulated the diet. During this time the tumor increased, and the condition generally seemed to have gone on rather more unfavorably than it was reasonable to expect simply as a result of the operation.

I called a surgeon, who advised a month's building up and then a removal of the tumor. Accordingly tonics and a generous diet were followed and, in recollection of the other cases I have cited, I added to this twice a week a massage treatment of the cervix uteri. The treatment did not produce a stupor as in Case I., but within a short time after the patient would fall asleep and remain so for two or three hours, and wake with unusual sense of vigor and *bien-être* and intense craving for food. A good, hearty meal at such times never disagreed with her, though at other times she was liable to indigestion. Within ten days the patient was much improved in general health, and the tumor seemed a little less, and in the third week the reduction was unmistakable, and a steady continuance of reduction reversed the decision as to an operation. At the end of the third week menstruation ensued, was fair in quantity and quality, and without very severe pain, but for ten days the tumor showed a decided increase. The same course as before was pursued for the next three weeks, and indeed for three months, except when it was interrupted by menstruation, which came very regularly at twenty-four days interval, lasting about four or five days without much pain, and once without any. Just previous to the second menstruation the tumor was not larger than an olive; it was again somewhat enlarged by illness, but before the third time there was nothing that would have attracted notice had there been no previous trouble, and during that time there had been no disposition to hysteria.

From this on the patient continued in ordinary good health, only that now and then, at the catamenia, there would come reminiscences as it were, and at one time, during the existence of a short-lived and rather stormy love affair, there was a temporary return of hysteria and a slight reappearance of the tumor. These disappeared with the end of the love business, and for three years since the health has been in every way as good as befalls the average mortal.

Of Case V. I can only report progress. It came under my care about eighteen months ago, in the person of a young lady, aged twenty-seven, medium height, gray eyes, brown hair, and slight figure. General health only fair, menstruation irregular and painful, accompanied by paroxysms of hysteria. There was a considerable degree of insomnia, much tenderness of the upper and lower ends of the spine and over the ovarian regions, rather greater over the left than the right. Menstruation was nearly always accompanied by epistaxis, three or four spells a day. I was, however, consulted with special reference to a couple of lumps which had formed at the lower part of the left breast, one being nearly the size of

a small hen's egg, the other about one-half as large. As in the other cases, they were freely movable, very hard, and very tender only upon slight pressure; pretty snug corsets seemed to give no discomfort. There was no other glandular trouble elsewhere, unless, perhaps, a little enlarged liver.

The womb was anteverted, painful to the touch, and with an acid catarrhal discharge, but no vaginal leucorrhœa. I resorted to injections of hydrastis and the use internally of actea racemosa. These served to substantially correct the mal-conditions of the uterus, but did not, as I had hoped, have any observable effect upon the breast.

Circumstances rendered it impracticable to try the course pursued in the other cases, and as an experiment somewhat analogous, I had recourse to massage of the cervical and lumbar tracts of the spine and the surfaces of the ovarian regions. These were practised every other day, just previous to retiring at night. It seemed to produce a decided general invigoration, and at the end of two weeks the mammary enlargements were less tender to slight touch and they were slightly less in size, especially one of them. At the end of five weeks the reduction was most decided. In this case menstruation did not seem to interfere with the results of treatment. The massage was now continued at intervals of three instead of two days, and at the end of three months one lump was completely gone and the other more than two-thirds less; and here we came to a standstill, after a month of which I concluded to adopt massage of the neck of the womb itself. I did so every other day for ten days, and for a time it looked as though with positive injury to the patient, as her troubles were in every particular aggravated. I stopped all treatment, with the conviction that there was some element in the case other than existed in the instances just narrated, and was seriously considering whether surgical interference would not be wise.

Five or six days after stopping the treatment a sudden and rapid improvement commenced, and without any further medicine or treatment of any kind the patient was, before the end of one month, almost entirely well, with but a trace of the lump in the breast; and up to my latest intelligence, last summer, there was no increase and the general health was good.

Case VI.—Mlle. de C——. This case is more one of observation than treatment. The subject was petite, slight, very dark eyes, with remarkably heavy dark hair and eyebrows, and with just a faint growth on the upper lip. The lips were very full, complexion extreme brunette; the nature was altogether intense and off balance. She was at all times more or less hysterical, and was subject to attacks of light epilepsy—*petit mal*—and was insufferably wilful. Her chief amusement and occupation seemed to consist of falling in and out of love in the most tumultuous possible manner. One of her relatives, after considerable trouble, got her to come and see me concerning a growth in the right breast. She permitted and assisted in the investigation of her case, but refused point blank to receive treatment from me or anyone else. She said the swelling came whenever she had an affair of the heart, and went away between times; it had done so twice before. I examined the cervix and found that hard. The lump in the breast was very hard, but not so movable as in some of the other cases. There were no glandular swellings elsewhere. I did not see the case again for some months, when she came in with her sister to tell me that the love affair had burned itself up, and the tumor of the breast had also gone out—and so it had. An examination of the cervix was allowed, and the abnormal hardness had also disappeared from that.

Twice since this the conditions described have come and gone, each time under precisely the same circumstances. Should the girl ever marry, I have no idea whether it will serve as a benefit or the reverse—though I am inclined to believe the first.

Case VII., and the last I will tax your patience with, was that of an unmarried woman, somewhat famous in the theatrical world. For reasons that will readily occur to you all, I will avoid any close description, and only say that the patient was brunette, not sensual but sensuous, somewhat hysterical and highly emotional, and was in her thirties. She had for many years been under my professional care, but with only the common run of small maladies. About four years ago she came to me in an intense state of alarm at the discovery of a swelling in the left breast, the size of a small hen's egg, which became exceedingly sensitive to either light or heavy pressure. The ovaries were tender, the womb hard and painful upon touch, and the upper end of the spinal column was very sensitive. She had become engaged to be married, and had herself observed that whenever separated from her fiancé—with whom she was thrown much in company—she would feel better and the swelling slightly decrease.

I had her take two months entirely away from her intended, and submitted her to a uterine and ovarian massage. Before the expiration of that time she had become natural in every way, only that the swelling in the breast remained, though less than half its former size. I then advised marriage, which advice in the course of two or three months was followed. Within one month after marriage the tumor disappeared absolutely, and has never since returned. She has never been enceinte.

The cases which I have given, and a few others that I have seen, have impressed me with a certain degree of conviction that there is a class of mammary tumors, ugly and misleading in appearance, but which are nervous reflexes purely of trouble in the generative organs.

My observation thus far would incline me to associate them with a high degree of sexual differentiation, dominant emotion, strong disposition to hysteria, profusion of hair, eyebrows and eyelashes heavy and darker than the hair of the head, lips full, especially the upper one.

The tumors are characterized by hardness, freedom from attachment, great sensitiveness, especially upon light pressure; no other glandular enlargements; sensitiveness over the ovaries, the neck of the womb indurated and painful to touch, the upper cervical vertebræ tender, and a greater or less disturbance of menstruation.

Light pressure on the sensitive parts is likely to produce intense discomfort, whereas heavy pressure, though it may give pain, is apt to give also a sense of relief.

In quick action of intellect they are generally quite beyond the average, in their tendency to religious profession and observance of its rites they are apt to be tenacious, although their real religious performances have a tendency to fall somewhat short of the promise.

That my report may carry as nearly as possible its true value, I must add that I have had also a number of cases, in the main resembling those here cited, and with which similar treatment utterly failed to be followed by cure, and sometimes even by any relief. I have two cases at present under treatment, both of which give reasonable promise of recovery.

The seven instances given are not sufficient, of course, to establish the proposition embraced in the title of this paper, but I think they strongly favor its probability; at least I hope the recital has not been a waste of your time.

The Acting Assistant Surgeons, United States Army.—Dr. S. S. Turner, of Camp Sheridan, Mammoth Hot Springs, Wyo., writes: "Justice to Dr. Parker, Recorder of the Acting Assistant Surgeons' Association of the United States, induces me to ask your permission to state that I am informed by a medical officer now in the service, that acting assistant surgeons now entering the army are subjected to a rigid professional examination, covering practically the same ground as the examinations for commission. I was not aware of this change."

Clinical Department.

A CASE OF MILK-LIKE EFFUSION INTO THE PERITONEAL CAVITY.

By JAMES E. NEWCOMB, M.D.,

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I DESIRE to place on record a few facts concerning a case of the above nature. The general topic is one of great intrinsic importance and any new case is rendered doubly interesting at the present time in view of some recent and very able contributions to the literature of the subject. I refer especially to the paper read before the last Congress of American Physicians by Dr. S. C. Busey, of Washington, D. C., and to a more elaborate article by the same author published in the December number of the *American Journal of the Medical Sciences*.

In the latter, the case about to be narrated is briefly alluded to but not at all in detail, and I desire to express my thanks to Dr. Busey for his courtesy in placing me in possession of a very able *résumé* of the cases thus far known to medical history.

On September 11, 1889, J—— H——, a male child, two years of age, of Irish parents, first came under observation. Previously had never had any definite sickness whatever and had always been strong and vigorous. Five days before, his mother had noticed that he seemed to have some pain about the stomach, and on examination she found the abdomen considerably enlarged. The distention gradually increased. Two days later the penis and scrotum became œdematous and so remained. At the time of the first visit the circumference of the abdomen at the level of the navel was 23½ inches; two days later, 25¼ inches. There was no fever and no vomiting. The bowels were rather loose, and contained (the mother said) considerable "white curdy matter." Pulse 90–100 and regular; breathing somewhat labored from upward pressure of abdominal contents on the diaphragm, and ranging between 45 and 50 per minute.

The child was of fairly good flesh and strength but presented the square head, enlarged epiphyses, and other evidences of a rachitic tendency. The superficial abdominal veins were greatly distended and the cavity evidently full of fluid. The chest and contents seemed normal. The splenic and hepatic areas could not be made out. The urine was free from albumin, normal in reaction and color, and of 1.030 specific gravity.

The usual medical means entirely failed to remove any of the fluid. Puncture of the genitals relieved the local œdema slightly. On the 14th dyspnœa became so urgent that tapping seemed absolutely necessary. This was done (under antisepsis) with a small trocar and cannula, and all the fluid allowed to run out that would, compression being made meantime on the abdomen by successive turns of a roller bandage from above downward. The child experienced nothing but the greatest relief from this operation. The amount of fluid withdrawn was forty-four fluid ounces, of a milky-white color, alkaline in reaction, specific gravity of 1.016, solidifying on the application of heat and nitric acid. It did not on standing present any fatty layer at the top, as has been the fact in some similar previous cases, but the deposit at the bottom of a conical glass showed some small granular cells, about the size of the smaller red blood-cells and resembling the smaller cells of the lymph. No fat-globules were discernible under the microscope. There was considerable loose granular matter apart from the cell contents.

After the tapping the œdema disappeared from the genitals but the fluid gradually reaccumulated in the abdomen. A second tapping was necessary two weeks after the first. The amount was about, and the character precisely, the same as the first. After the second operation there was for a few days every probability that a third would be necessary, but the abdomen gradually subsided and in three weeks the child was apparently as well as ever, and has since so continued, as far as is known. The mother was told to bring him to me again on the first sign of any trouble. I have lost track of her, however, and do not know definitely about the case now. I omitted to state that after the removal of the fluid it was possible to map out the liver and spleen, which were apparently healthy.

Many interesting questions suggest themselves in connection with such a case. The writer has called the effusion "milk-like," not caring to commit himself to any definite theory as to its composition. Dr. Busey's admirable papers discuss all of these problems fully, and it would be impossible to go all over the ground here. It is interesting to note that only fifty-three such cases have been reported in the last one hundred and ninety years.

131 WEST SIXTY-FIRST STREET.

THE TREATMENT OF KELOID.

By GEORGE T. WELCH, M.D.,

PASSAIC, N. J.

KELOID is seldom, if ever, regarded as curable, most authors relegating it to the limbo of opprobrium medicinæ at once, though Dumreicker is said to have succeeded in removing one from the lip by the application of acetate of lead and alum in the form of an ointment. The disease has baffled surgery, always returning after excision, and presenting a more malignant appearance. This is all the more remarkable, as it is regarded as a hypertrophic growth of the fibrous tissue of the surface, and seated in the corium itself—a part easily accessible, and to be removed without difficulty.

But after the excision of a true keloid it would seem that the traumatic variety is developed in the cicatrix, a tendency to the disease being now hereditary in the surrounding cellular tissue. But even here I am inclined to believe that persistent applications of collodion and iodine might perform a cure, under proper methods, if persevered in for several months.

In the spring of 1888, J. B——, a thriving Swede, interested in oyster-planting in Raritan Bay, consulted me in reference to a keloid on the back of one of his hands, which he had recently injured while assisting a workman in dredging. I had seen the keloid before, when it was pinkish, shiny, and sending out its crab-like claws of fibrous tissue into the surrounding skin, but now it was angry in appearance, and very painful.

The patient was anxious to have it removed, but, being a sensible man, after hearing the result of the use of the knife, he agreed to continue, for an indefinite time, such remedies as I might prescribe.

After multiple linear scarification, as advised by Vidal, from which plentifully exuded big drops of black-looking blood, the surface was dried and then painted with collodion. The collodion was now continued for fourteen days, when it was allowed to scale off. The keloid was somewhat contracted and depressed, but a fantastic crop of coral granulations sprang up in all directions, and, as it were, in a night, some of them interlacing, and all attended with an intolerable itching. Scarification was again practised, but the collodion was enforced, with tincture of iodine:

℞. Tr. iodinii ..... ʒ ij.
Collodio ..... ʒ vi.
M.

This was applied freely, and the parts were painted over daily for a fortnight, when the continued cracking of this varnish would cause slight bleeding, and it was then permitted to scale off. Scarification would again be performed, the collodion and iodine reapplied, and the above process continued as before. Many times the cicatricial granulations would reappear, and sometimes the keloid

would spread out sideways in a new direction, but, upon the whole, an encouraging progress was at length manifested. The centre of the affected part became mobile, and of a natural color, and finally the margin was cured in spots, and the dimensions of the whole decreased from a diameter of three inches to a semilunar elevation next the fingers of two inches in length. The treatment, without variation, for this went on until, after about eighteen months from the beginning of the process, the disease had entirely disappeared, and the skin, slightly purplish in appearance, was flexible and healthy, and this without internal medication.

It is not probable one might soon find so docile and patient a man as this, but, given the conditions, I think better results might be anticipated in a persistent adherence to this line of treatment than by any other.

LIGATION OF THE LEFT SUBCLAVIAN IN THE THIRD PORTION FOR TRAUMATIC ANEURISM OF THE AXILLARY ARTERY.

By THOMAS D. PARKE, M.D.,

BIRMINGHAM, ALA.

James T——, colored, aged forty, laborer, was wounded by a pistol-ball, May 4, 1889, the ball entering the posterior and inner surface of the arm at the fold of the axilla, and causing immediate loss of motion in the arm. The location of the ball could not be ascertained. On Saturday, May 25th, three weeks after the accident, he noticed, so he claims, between dark and midnight, the formation of a tumor under the pectoralis muscles which caused pains, radiating over his breast, and difficulty in breathing. On the 27th I was called in consultation to see the case by Dr. Douglass, found a pulsating tumor, size of an ordinary egg, with distinct bruit on left axillary artery, and concurred in the diagnosis of aneurism. The consent of parties concerned could not be obtained immediately, but on the following morning the patient was transferred to Charity Hospital, and the operation of ligature of the third portion of the subclavian performed in the presence and with the assistance of several associates. The clavicle was raised, and it was after a tedious dissection through the infiltrated tissues that the artery was isolated and ligated with silk, in the absence of proper sized catgut. The patient was put to bed with the arm enveloped in cotton, and hot cans were placed in apposition. The arm was cold, but by the following morning was the warmer of the two.

The general temperature went during the night to 101° F. but fell to 99½° F. on the next day, above which point it did not subsequently rise. The pulse remained about 95 for three weeks after the operation. The dressing was changed on the sixth day, and pulsation, though extremely feeble, was felt in the radial on the third day after operation. Appetite was good and constant from the first, and there was practically no pain save some insignificant pain referred to the elbow of the affected side. This elbow pain had been a symptom from the beginning, so much so that the patient always contended that the ball was lodged there.

Sensation to touch was entirely absent in the arm prior to and for more than ten days after operation, and then returned gradually, never, however, to be complete. Sensation first returned to the under and inner side of the arm, then to the ulnar side of forearm and the little and half of the ring-finger, next to the radial side of the forearm, but very little sensation has ever returned to the thumb, index, and middle fingers.

During the first week of August he began to move very slightly his fingers, and by the 20th of same month could raise his arm a few inches from his side, due to action of deltoid.

Massage and faradization were employed interruptedly (due to apathy of patient) after the second week, but have had little perceptible effect.

After the aneurism had disappeared and the swelling of the shoulder and arm was reduced, the ball was located, in the neck, immediately in front of the anterior border of the trapezius muscles, rather deeply imbedded, and was removed, much to the mental relief of the patient.

SPORADIC CHYLURIA.

By L. WEHLAU, M.D.,

SCRANTON, PA.

On November 23, 1889, I was called to attend Mrs. R——, aged sixty-seven, a native of Germany, but having resided in this country more than thirty years. She was then suffering from croupous pneumonia of the left lower lobe, from which disease she is now recovering. On the ninth day of her disease her daughter called my attention to a singular condition of the urine, which in color resembled a mixture of coffee and milk with great excess of the latter. On standing for a while in a conical glass, three strata appeared. The upper one formed a creamy substance, the lower one showed white fibrinous coagula, the middle strata retained the appearance first described. Reaction neutral, specific gravity, 1.022. Under the microscope nothing but fat in molecular form and oil-drops could be seen. The next urine passed was normal, with large amount of urates. The woman, as far as known, had never before passed a similar urine. She had always been remarkably healthy. Simulation and deception can be positively excluded. Reading the article by Dr. James Tyson in Pepper's "System of Medicine," on Chyluria, I find that chyluria is a very rare disease in this country, and that this case differs from others in showing itself at such a late period of life for the first time. I regret to be unable to give an explanation of this occurrence. Filaria sanguinis could not be found.

CONCERNING ANTISEPSIS IN SUBCUTANEOUS INJECTIONS.

Dr. D. E. English, of Millburn, N. J., writes: "In reply to Dr. P. G. Udell, I would say that his plan of using the hypodermic method is entirely too 'fussy in detail' to be of practical use to the busy practitioner. Moreover, so much care seems to me unnecessary. I have used the hypodermic method freely for years, not hesitating to inject such medicines as tincture of digitalis, brandy, and quinine sulphate in solution, and have never yet caused an abscess; and I can only recall four slight indurations. I have given one patient over two hundred injections without causing more than two slight indurations.

"The morphine solution which I use is identical with that used in Roosevelt Hospital in 1883–84, viz.,

℞. Atropinæ sulph.,
Acidi salicylici, ... ā gr. ss.
Liq. Magendie, ... ℥ j.
M.

"But I think the manner of giving the injection is of prime importance. Draw into the syringe a few more minims than you wish to inject, then grasp the point of the needle with the thumb and finger of the left hand, with the right hand push a drop or two of the solution out of the syringe, and with these drops thoroughly wash the needle with the aid of the thumb and finger of the left hand. Make the injections, not hypodermic, but intra-muscular. After the injection, if possible, make the patient thoroughly exercise the muscle injected. Whether or not he can do this, massage the injected muscle until you are sure the solution is well diffused through the tissues. I have been using the same syringe for over seven years, and have kept it in the same Russia leather case, which I have no doubt is alive with all sorts of horrible microbes, but I think washing the needle with the solution keeps them out of the patient."

Progress of Medical Science.

A Method of Operation Intended to Diminish the Dangers of Resection of the Intestine.—The unfortunate results following the treatment of gangrenous intestine by means of primary resection of the intestine and the establishing of an artificial anus, impelled Dr. Hahn, of Berlin, to employ the following method: The gangrenous intestine is drawn out through the inguinal ring, a double ligature is applied, and the gangrenous portion resected between the two portions of the latter. Iodoform gauze is packed into the previously disinfected lumen of the bowel, which is then sutured. An incision is then made of from six to eight centimetres in length, in the linea alba, crossing the origin of the mesentery, so that the upper portion of the incision is above, and the other portion is below the point of crossing of the latter. For this purpose the incision is begun somewhat below the umbilicus, and ends closely above an imaginary line passing from one anterior superior spinous process to that of the opposite side. The abdominal cavity is opened to this extent, and both ends of the intestine drawn out of the abdominal wound at the linea alba. This is accomplished by means of a pair of dressing forceps, which grasp the ends of the bowel by means of the double ligature threads before mentioned. The wound in the hernial region is irrigated and tamponed with iodoform gauze. Thereupon the exact condition of the intestine is determined, and, if no further resection is necessary, the sutures are applied in the usual manner (circular suture). Strips of iodoform gauze are placed under the line of sutures, so that the bowel, so to speak, rides upon the same; or from both sides of the bowel strips of the same material are led to the mesentery. The latter method is preferred, inasmuch as they are more easily removed. Then the bowel and gauze are lowered into the abdominal cavity, and the ends of the strips led out through the abdominal wound, and are fastened in the latter, whereby the bowel is secured to the neighborhood of the abdominal wound. Between the strips the abdominal wound is still further packed with iodoform gauze, and the skin of the abdomen united over all by means of about three superficial sutures.—*Annals of Surgery.*

The Effect of Distention of the Abdomen on Circulation and Respiration.—The effects of pregnancy, ovarian dropsy, ascites, and other diseases leading to great distention of the abdomen, in impeding respiration and disturbing the action of the heart, though there is little unanimity or precision in the opinions that are entertained respecting them, are generally admitted. Such affections are, indeed, of a chronic nature; the abdominal walls have time to yield, and the organs, both in the abdomen and in the chest are enabled to accommodate themselves to the altered conditions. Experiments have been recently undertaken to determine the effects of sudden distention of the abdomen in animals, by Dr. G. Heinricius. It is generally believed that in pregnancy there is marked increase in the tension of the systemic vessels, and that, as a consequence, the heart undergoes hypertrophy. But although such statements are to be found in almost every gynecological text-book, the evidence on which they rest is extremely slender. In order to determine whether any obstruction to the circulation which may exist in the uterine vessels in pregnancy would raise the general blood-pressure, Dr. Heinricius first performed the very simple experiment of tying the aorta, just above its division into the iliacs, and found that in four rabbits no change took place in the arterial tension of the carotids. Hence no effect was to be expected from ligature of the uterine arteries, nor from any such obstruction as might proceed from their distribution in the pregnant uterus and in the placenta. He next proceeded to ascertain by experiment the effects of distention of the abdominal cavity in the rabbit and cat. He employed a double cannula, which was introduced through or at the side of the linea alba by a small puncture in narcotized animals; one arm of the cannula was connected with a vessel containing normal saline solution at the temperature of the blood, and the other with a manometer. Arrangements were further made to record graphically the respiration and the blood-pressure in the carotid. The respiratory and blood-pressure curves were taken after each 50 or 100 c.c. of the solution had been injected into the abdomen from the vessel, and the phenomena which were presented proved to be remarkably uniform. In all the experiments, which numbered fifteen, it was found that the abdominal cavity could be filled with a large quantity of fluid, so that the parietes were quite tight, without either pulse or respiration being materially disturbed. It was only after very great distention had been produced that the respirations became more frequent and deeper, the expiratory effort being particularly well marked. This dyspnœa was apparently attributable to the diaphragm being pressed upward, and the capacity of the thorax correspondingly diminished, so that mechanical obstruction to respiration was occasioned. The effect of this was that the accessory respiratory muscles were brought more into play, and the breathing became more and more thoracic in character. But these efforts soon became insufficient to compensate for the defective action of the diaphragm. The respiratory centre became excited, but was soon paralyzed by the venous blood. The respirations underwent a change; they became first shallow and slow, then deeper, dyspnœa finally occurred, and the animal died. If we turn now to the effects of the distention on the circulation, we find that when the distention became considerable the pulse at first increased in frequency, then became fuller, afterward less frequent, and before the death of the animal usually suddenly smaller. The arterial blood-pressure first began to rise when the frequency of the pulse had considerably diminished, and then gradually fell as the pulse became smaller. Dr. Heinricius says that the abdomen may undergo great distention without abrogation of the more important vital functions. The abdominal cavity of a rabbit can support in this way the introduction of 500 c.c. of fluid without difficulty, and nearly a litre and a half of fluid can be further injected before dangerous symptoms supervene, clearly showing how extraordinarily yielding the abdominal parietes are, and affording a proof that it is not necessary to appeal to the slowness with which they are distended in pregnancy, and in cases of abdominal tumor, to explain the slight interference with the main functions of life that occurs in those conditions.—*Lancet.*

The Histogenesis of Abscess of Cellular Tissue from Invasion by Staphylococci.—Dr. Hohnfeldt, of the Pathological Institute of Königsberg, has devoted much study to this subject. His experiments of injecting staphylococci, and thereby producing suppuration, confirmed the teaching of Cohnheim, that pus-corpuscles were in every instance wandering leucocytes exclusively which had penetrated the walls of the blood-vessels, altered in character by the inflammatory irritation, and that they therefore did not derive their origin from growth of the fixed cellular tissue-cells, nor by division of the leucocytes. If the experiments of other distinguished workers had led them to a contrary opinion it was probably due to the fact that the substance introduced subcutaneously, oil of turpentine, had set up a necrotic process instead of a simple inflammatory one. As regarded the relation of the development of cocci to the leucocytes, his experiments had not in the least supported the assumption that when free passage of cocci took place into cells the former were destroyed. The indications were, on the contrary, that the pus-cells formed a favorable soil for the growth of the cocci, and that the latter gradually destroyed the former. He could not, therefore, confirm Metschnikoff's theory of phagocytes.—*The Medical Press.*

A Sensitive and Convenient Test for Albumin, says Dr. Mortimer Granville, is trichloracetic acid. This precipitates albumin and not peptones.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE TESTICLE IN ANCIENT PHARMACY.

DR. ARCHIE STOCKWELL writes an elaborate historical and critical article in the *Therapeutic Gazette* regarding the subject of testicular secretion in therapeutics. It is not surprising that in olden times, when every conceivable agent, from tongue of snake to eye of bat, was put into pharmacy, that the sexual organs should also be utilized. As a matter of fact, Dr. Stockwell has succeeded in finding a great number of references to the use of the testicles of various animals in the cure of disease. We cannot repose the fullest confidence in Dr. Stockwell's historical accuracy or soundness of judgment, for he informs us that "we now know" that Socrates was sentenced to death for his sexual crimes, and that the faults of Paracelsus were venial, and consisted, "like those of Pasteur," chiefly of "theatrical enunciation and denunciation, and the drawing of conclusions from imperfect data." If ever there was a liar and quack, it was Paracelsus. However, he anticipated Brown-Séquard, for we are told that out of *sperma hominis* he made his homunculus, and asserted that "it was good against the imbecility of the instruments of generation." In the *Hortulis Genialis* of Baricellus, Genoa, 1620, is found a receipt for sexual rejuvenescence, the principal ingredient of which is the testicle of the wild boar; and a parallel prescription is offered in a work by Elzear Blaze, one hundred and twenty years later.

During the seventeenth century reproductive products, as obtained from mammals, birds, and fishes, still enjoyed an enviable reputation as cerebro-spinal and genital excitants; they were especially endowed with specific attributes in diseases of mucous membranes, or those due to nervous derangements, such as "the falling sickness," chorea, and neurasthenias. They were, however, more generally employed to restore sexual vigor and increase virility, and found a prominent place in the London Pharmacopœia as issued by the Fellows of the Royal College of Physicians in 1676, and also in Salmon's "New London Dispensatory" of 1684.

In the eighteenth century most animal remedies were dropped from the Pharmacopœia, and the testicles among them. It is very evident that they were recommended and used in ancient times on purely fanciful grounds, and that, as administered, they could have had no more physiological effect than so much dried albumin. The leucomaine or ptomaine, thought to be in the fresh juice, and asserted to be represented by a substance called "spermine," must be destroyed by drying, heating, and addition of various chemical agents. The administration of testicles in diseases has in the past been only a kind of offshoot of phallic worship, and the modern use of testicular secretion seems to be of much the same character.

STRANGE, IF TRUE.

IF it were possible to credit all the tales that are told of the wonderful curative powers of hypnotism, we might well believe that the medical millennium was nigh, and that the triumph of mind over matter was nearly complete. There is scarcely an ill, whether functional or organic, which has not been approached, and, if we could only believe it, cured, by this young but much-ridden therapeutic hobby.

One of the most remarkable stories of hypnotism that we have yet seen is related by Dr. Herrero in a work which he has recently published, and which we find quoted in the *Revista Médica de Sevilla* of November 30, 1889. The patient was a congenital deaf-mute, seventeen years of age, of good bodily and mental health. She was made to understand by signs the object of the treatment, and joyfully consented to submit to the experiment. Daily séances were held for a month with no apparent result, and both physician and parents were discouraged; but the patient seemed still to have faith, and so the treatment was persevered in for about two weeks longer. At the end of that time the mother reported, with tears of gladness, that the girl could hear a little, and it was found that the watch could be heard against the right ear. Daily hypnotizations were then continued for the space of six months, at the end of which time the hearing in the right ear was found to be normal and that in the left ear very good. The hearing being restored, it only remained for the patient to learn to talk, and this she did in the natural way, aided by hypnotism.

We tell this story as it was told. If any of our readers want to try the experiment for themselves, they can find plenty of material to work upon.

INDECENT ADVERTISEMENTS.

A LAW against indecent advertisements has just been passed by the British Parliament. It prescribes fine or imprisonment on any person who affixes to, or inscribes on, any house, building, etc., visible from any public highway or footpath, or delivers or attempts to deliver, or exhibits to any person being in or passing along any street, public highway, or footpath, or throws down the area of any house, or exhibits to public view in the window of any house or shop, any picture, or printed or written matter, which is of an indecent or obscene nature.

It is also expressly declared that any advertisement relating to syphilis, gonorrhœa, nervous debility, or other complaint or infirmity arising from or relating to sexual intercourse, shall be deemed to be printed or written matter of an indecent nature within the meaning of the act.

A law something of the above character would materially cripple the income of some of our daily papers; but it would be a most salutary thing.

In this city most of these papers contain the most open

advertisements of abortionists, of persons desiring "housekeepers," of cures for syphilis, impotence, and sexual debility; while the telegraph poles of the east and west side are plastered with advertisements of specifics for gonorrhœa, and the shop-windows are full of pictures of denuded women illustrating the virtues of various brands of cigarettes.

The daily press is very indignant over the activity—sometimes over-energetic—of Anthony Comstock. But if indecent advertisements were not so profitable, perhaps Mr. Comstock would receive more commendation for his work.

In illustration of the power of the advertiser to modify journalistic opinions we quote from the Portland (Ore.) *Journal*. It seems that Oregon has a medical practice act, and one of its first results was to drive from the city a certain advertising specialist. Says the *Journal*:

"Upon what hypothesis the board rejected his diplomas we can't divine. Dr. A—— is one of the oldest specialists on the American continent, and seventeen years ago he practised in this city for a period of four years. He has practised in San Francisco, Philadelphia, Chicago, and many other cities of like importance, and is recognized as one of the greatest eye and ear physicians of this age. This unfortunate circumstance will certainly be an unwelcome piece of news to the press of this coast, as the doctor is one of the heaviest, and most extensive advertising physicians in America, and had he located in Portland, as he expected to do, he would have advertised in every paper on the coast, and probably spent $50,000 the first year with newspapers."

THE MEDICAL PORTION OF THE PENSION BUREAU.

We have noted at various times criticisms as to the organization and work of the medical portion of the United States Pension Bureau. Dr. Henry Bixby Hemenway has published an article upon this subject in the *Medical News* of February 1st, and has embodied in it the drafts of two bills now before Congress.

Dr. Hemenway asserts that the medical examiners of the Pension Bureau are insufficiently paid, and that the medical officers at Washington are insufficient in number, and, perhaps, deficient in quality. Pension surgeons, according to the present law, are paid $2 for each examination up to five; after that $1 for each examination.

In the Washington office the force consists of one medical referee, one assistant, two surgeons, and eighteen medical examiners. These men receive each, per annum, respectively, $3,000, $2,500, $2,000, and $1,800.

Life insurance companies pay their medical examiners about $10,000 per annum.

The first of the bills prepared by Dr. Hemenway adds one surgeon and six examiners to the present force at Washington, and increases their salaries as follows:

Medical referee, from $3,000 to $4,000; assistant referee, from $2,500 to $3,600; surgeons, from $2,000 to $3,000; medical examiners, from $1,800 to $2,500.

The second bill provides that each member of each board of surgeons for the examining of applicants for pensions shall, as now authorized by law, receive the sum of $2 for the examination of each applicant.

While we believe that these bills are eminently just and ought to become laws, it is not here that the work of improvement in the medical service of the Pension Bureau should cease. There is need of a better organization of this service, and a removal of it from politics. As it is now, the offices, we are told, are party spoils; and if the salaries are increased the spoils will be greater, while the medical work will not necessarily be in the slightest improved. Already very severe criticisms have been made on the character of these political pension boards.

LEGISLATING MEDICAL WOMEN INTO INSANE ASYLUMS.

We observe that a plan is on foot to secure the enactment of a law compelling the appointment of medical women for attendance upon the female insane in our State asylums. The editor of *Harper's Weekly* has lent his potent pen for the promotion of this project.

We should regard such a law as most unwise, unjust, and unnecessary.

We quite believe that medical women can be of especial service sometimes in lunatic asylums; but the medical superintendent ought to be allowed to exercise his judgment in this matter, and there should be no special class of doctors legislated upon him.

The idea that medical women can, as a rule, make examinations and carry out gynecological treatment on the insane better than men is, we believe, not supported by experience. As a matter of fact, also, it is not very often that local treatment is indicated in insane women. Finally, the argument that an insane person who desires a woman physician should be allowed the privilege is too extraordinary to deserve comment. The ordinary experience of humanity is that maniacs, dements, paretics, etc., do not possess capacity for wisely chosing what is best for themselves. Our Legislature might as legitimately try to provide a piece of the new moon in case the female lunatics desired it.

Physicians should be chosen only on a basis of medical skill, character, and training, not on a basis of sex or the preferences of lunatics.

EXAMINATION OF CANDIDATES FOR ARMY MEDICAL SERVICE.

We call attention to the following notice from Surgeon-General Moore, of the meeting of an Army Medical Board in this city for the examination of candidates for the medical service, and trust that it will receive due consideration from all concerned:

"An Army Medical Board will be in session in New York City, N. Y., from May 1 to 31, 1890, for the examination of candidates for appointment in the Medical Corps of the United States Army, to fill existing vacancies.

"Persons desiring to present themselves for examination by the Board will make application for the necessary invitation to the Secretary of War, before April 1, 1890, stating the place of birth, place and State of permanent residence, and inclosing certificates based on personal knowledge from at least two physicians of repute, as to professional standing, American citizenship, character, and moral habits; also, statement of service in hospital from

the authorities thereof is desirable. The candidate must be between twenty-one and twenty-eight years of age, and a graduate from a *Regular Medical College*, as evidence of which his diploma must be submitted to the Board.

"Further information regarding the examinations and their nature may be obtained by addressing the Surgeon-General, United States Army, Washington, D. C.

"JOHN MOORE, *Surgeon-General, U. S. A.*"

News of the Week.

Give us a Rest.—Now that the epidemic of influenza is over we trust that the poor tired doctors will have a rest. It is really too bad to learn that "our doctor made one hundred and forty visits yesterday," also, "our doctor is very busy, and has not slept for fourteen nights." Too busy by far. How do our patients find out all this? But seriously, if the grip had lasted much longer it might have killed off all our best men. We hope this good man who owes himself fourteen nights sleep will soon catch up; that the poor man who "has not had his clothes off for a week" has had a bath, and that the one hundred and forty daily patients of the other unfortunate overworked man are still alive to appreciate his herculean labors. Take care doctor! Either a pillar of salt or an obituary are in waiting.

Mr., not Doctor.—To the name of Mr. Henry Mortimer Archer an M.D. was affixed by our own misapprehension. Mr. Archer, who is an undergraduate, desires to free himself from an attempt to sail under false colors, and asks for a correction, which we cheerfully make.

Body-snatching.—A case of body-snatching has come to light in Knoxville, Tenn. The "subject" was found in the Tennessee Medical College.

National Convention on Medical Education.—The faculties of several of the medical schools of Baltimore, Md., and the staff of the Johns Hopkins Hospital have been considering the subject of reforms in medical education. It was the unanimous sentiment that the matter should take a national rather than a local form, and in accordance with this view a proposition was made that the medical schools of the United States be asked to send representatives to a conference to be held at Nashville during the approaching meeting of the American Medical Association in May. To give greater weight to this movement a meeting was held yesterday to take further action. After the subject had been thoroughly discussed a circular was drawn up, to be sent to the medical schools of the United States, stating that it is not expedient nor practicable for the medical schools of any State to assume alone the responsibility of adopting advanced methods. Yet, fully convinced of the pressing need of a change, and earnestly desiring to see it consummated, they are unwilling to let matters rest longer without an effort on their part to improve them. Fully aware of previous ineffectual efforts in this direction, they realize that times have changed, and they believe that a repetition of them at this time would have a good prospect of success. The meeting of the American Medical Association in May will offer a good opportunity for a general discussion of the subject, and the medical colleges are requested to send delegates to a conference at that time "for the full consideration of medical education in this country and measures for its improvement." The following subjects are considered as most likely to come up for consideration: First, three years' course of six months sessions; second, graded curriculum; third, written and oral examinations; fourth, preliminary examinations in English; fifth, laboratory instruction in chemistry, histology, and pathology.

Medical Exhibits at American Medical Association.—The forty-first annual meeting of the American Medical Association will be held in Nashville, commencing Tuesday, May 20th, and continuing till Friday, May 23d. In connection with the meeting of the Association, which promises to be a very interesting one, there will be held the usual exposition of pharmaceutic, surgical, and sanitary products and appliances. This exposition is expected to be one of the largest and most complete exhibits of the kind ever held. The Committee on Exhibits has secured for this display the Amusement Hall, on Broad Street, which is both commodious and accessible. The Tennessee Druggists' Association will meet in Nashville at the same time, affording an additional inducement to exhibitors. Pharmacists and others intending to exhibit their manufactures should address Dr. J. Berrien Lindsley, Chairman of the sub-Committee on Exhibits. To defray expenses each will be required to pay an entrance fee of $10, which will entitle him to twenty-five square feet of space, each additional square foot costing 50 cents.

A Night Medical Service.—It is proposed to establish a night medical service in London. Our own night medical service has, so far as we can learn, lapsed into innocuous desuetude.

The Hospital Collection Fund at last accounts had reached the sum of $53,670.22.

The State Board of Health.—Governor Hill recommends an act abolishing the State Board of Charities and the State Board of Health, and vesting their respective powers in single officers, thereby concentrating responsibility.

Trying to Save the Adirondacks.—Several prominent physicians of this city have joined in an appeal to the people of the State for the preservation of the Adirondack forests. These are gradually being destroyed through the introduction of small railroads in the interests of the lumber and iron industries.

Dr. Benedict Schulz, of Vienna, died on January 5th, at the age of seventy. He was the first Austrian physician to place electrotherapy upon a scientific basis. His first communication upon this subject was made in 1843.

Professor C. Westphal, of Berlin, one of the most eminent of German alienists, died recently, after a long illness.

The Fate of the Doctor who Trusted to a Telephone.—The *North American Practitioner* tells of a doctor in a neighboring State who was called one rainy night to attend a case of croup. Not wishing to get wet, he directed the child to be held to the telephone (so the story goes), and, hearing it cough, corroborated the diagnosis and gave directions for treatment. He then returned to bed, and on calling the next morning found the child doing well—under the care of another physician.

A New Medical College.—The Legislature of California has passed a bill appropriating $80,000 for the erection of a new medical college for the University in San Francisco. It will be built opposite the City and County Hospital.

A Bacteriological Institute of Preventive Medicine is to be established at the University of Cambridge. One of the principal lines of work will be anti-rabic inoculations.

Dr. W. D. Greene has been appointed health physician to Buffalo, N. Y.

Dr. Fraser C. Fuller has been appointed surgeon to Charity Hospital, N. Y.

Merry Students among Corpses.—A Philadelphia paper has a long article, with the above heading, detailing a visit to the dissecting-room in which ruffianly students were described as sporting with the remains of poor humanity. If there is any truth in the account every medical man should cry shame.

To Take the Place of Hard Cider.—A peculiar result of the drinking of ice-cold water from a spring in Stonington, Conn., is reported. The water flows from a crack in a high rock, and the veins of a man who drinks from it begin to swell, and he looks and feels as though he were about to burst for the next ten minutes. The swelling gradually subsides and no serious effect is felt, except a slight buzzing in the ears. It is the talk of the neighborhood, and everybody is eager to try the effect of the water. A specimen has been sent to Boston for analysis.

New Hospitals.—A German hospital is to be erected in Brooklyn, and also one in Jamaica, Long Island. The managers of each have already elected themselves.

The Philadelphia Lying-In Hospital has been closed on account of an epidemic of puerperal fever.

Pambotani. — Dr. F. Semeleder, of Mexico, writes: "The name of the Mexican fever remedy mentioned on page 84, No. 3, Vol. 37, is 'Pambotani.' A few years ago much fuss was made about it, now it is completely forgotten and nobody thinks of it any more. Botanical name unknown."

A Physician Robbed.—Dr. William M. Hutchins, of 304 Henry Street, Brooklyn, was eating his supper one evening about 7 o'clock, when the servant, who had answered a ring of the door-bell, informed him that there was a lady in his office. The doctor finished the meal hastily, but when he entered his office there was no one there. A glance showed him that his overcoat and a black diagonal frock-coat had been taken. They were valued at $40 each.

Retained as Medical Expert in Leprosy.—The British Government has decided to retain the services of Dr. A. C. Smith, of Newcastle, N. B., as permanent medical expert in leprosy. Since the discovery of three cases of leprosy on Cape Breton Island last year, Dr. Smith has been making a thorough investigation into the ramifications of the disease, and although there is no cause for alarm, it has been deemed expedient to continue the investigation. Dr. Smith has for some years acted as "visiting physician and medical adviser" at the hospital for lepers at Tracadie, N. B.

Prize by College of Physicians of Philadelphia.—The College of Physicians of Philadelphia will award the Alvarenga Prize, consisting of one year's income of the bequest, to the author of the best memorial or unpublished work on any branch of medicine, the College reserving to itself the right to reject all essays not considered worthy of the prize, and that they will be received by the secretary, Isaac Norris, Jr., until June 1, 1890.

Protection of Croton River.—The annual report of the State Board of Health shows that one hundred and forty-two violations of the rules for the protection of the Croton River and its tributaries have been reported by the Commissioner of Public Works for New York City. Lists of all violations have been transmitted to the Boards of Health of the various villages and towns in which the premises are located, with instructions to carry out the rules. Many of the violations reported are rather cases of neglect than of wilful refusal to conform to the rules. In some cases the alterations of existing conditions to conform to the rules will be a matter of some expense, and the parties affected are reluctant to incur this without a prospect of reimbursement from the city of New York. A hardship would be worked in some cases if this were insisted upon; but there is almost no instance in which compliance with the rules will not benefit residents upon the watershed as well as the city, and the manifestation of a proper spirit will doubtless bring about an equitable division of the outlay.

Our Medical Pension Boards receive the following comment from the editor of the *Kansas City Medical Index*: "How different is the medical staff of the United States Army from the United States Pension Boards! Contrast the average army surgeon, for example, with the Kansas City Board of Pension Examiners; fie! Compare a glow-worm with the aurora borealis, the hill of the piz-ant with the mighty Andes, a bacterium to the universe!" Perhaps our esteemed contemporary is a little severe. It is true that there is too much politics in Pension Boards, but we can hardly expect the members should have the qualifications exacted of army officers.

The Number of Deaths from all causes in the State of New York during the year 1889, according to a summary of the figures given by the *Monthly Bulletin*, was 104,233. At an estimated population of the State of 5,750,000, the death-rate was 18.65 per 1,000. But reports of 3,000 deaths were received too late for insertion, making the whole number of deaths 107,233. About 80,000 of the population make no return of vital statistics, and these are disregarded in the estimate of population. The mortality rate for the cities was 22.06, that for the country 13, per 1,000. The statistics for five years for typhoid fever, diarrhœal diseases, diphtheria, and consumption, show some variations, but no considerable increase in percentage of any of them. The percentage of deaths from consumption in 1889 was slightly higher than in 1888, but lower than in either 1885, 1886, or 1887. The greatest number of deaths in a single month was 10,806 in July. The next greatest number was in March, 9,547, and the smallest number was in November, 7,285.

The College Yell of the Homœopathic students of this city is spelled as follows: "Rah! Rah! Sim. Foom, Ah! Similia—Similibus! Cu-ran-tur!"

Dangerous Hypnotics.—Liebreich asserts that the new hypnotic somnal is neither safe nor efficacious. Dr. Marandon de Monthyel has published observations unfavorable to sulphonal, asserting that it is uncertain and may have dangerous cumulative effects. His views are supported by Professor Mairet, and by Drs. Jastrowitz and Knoblauch. Nevertheless, few serious results have in reality been observed.

Barmenite is the name given to a new compound consisting chiefly of chloroborate of sodium, and used for preserving food. The German government, says *The Therapeutic Gazette*, is taking particular interest in barmenite. Recently, for the sake of a trial, a whole battalion of the Sixty-fifth Regiment, in Cologne, was fed with meat which eight days previously had been treated with barmenite. The meat was found to be excellent both in taste and appearance.

Peculiar Suits Against Doctors.—A woman has brought suit against a Philadelphia physician because he positively pronounced her to be pregnant, although time proved the erroneousness of the diagnosis. She brings a suit on the plea of "bringing disappointment." A widow in New York has, it is said, brought a suit for damages against a well-known neurologist for taking her husband's brain, and also for violating an alleged contract to give her $1,000 for using her husband as a medical object-lesson. The brain was that of the original case of athetosis.

The Hospital Collection.—The Saturday and Sunday Hospital Collection Fund had, up to January 29th, reached the sum of $52,618.61.

A Foot Reflex.—Two cases are reported by Dr. Robert Abbe, and one by Dr. V. P. Gibney (*Annals of Surgery*), showing that sometimes a painful flat foot may be entirely relieved by treating and removing an ingrowing toe-nail.

A Medical College for Colored Students has recently been organized at New Orleans, in connection with the New Orleans University.

The Medical Profession of Hot Springs.—The *Weekly Medical Review* says: "We have received a list of sixty-one names of men employed by thirteen Hot Springs "doctors," under license from the city clerk, to drum or solicit on trains, etc., for them. The correctness of the list is undoubted, as it is subscribed and sworn to. And yet we recently heard the declaration that this sort of thing had been done away with at Hot Springs."

A Paraplegic Surgeon.—Professor Nussbaum, of Munich, writes a correspondent of the *Medical News*, operates every morning at eight, and appears punctually on the hour, wheeled into the arena by a special porter of the hospital. He operates sitting before a low table, for he is not able to stand. I saw his clinic of November 28th, in which he operated on three cases. On November 27th, he performed three operations; on the 26th, a supra-pubic lithotomy; on the 25th, an amputation of the breast for carcinoma with involvement of the axillary glands; on the 24th another supra-pubic lithotomy. Up to that time, since November 3d, he had performed six such operations. This shows what a great amount of work he takes upon himself to perform. He lives in the hospital, and now spends most of his time there, and is the only man of note who operates through the summer.

Professor Leyden, of Berlin, has been called to St. Petersburg to attend the Czar.

Dr. William Goodell, of Philadelphia, has been invited, by the Gynecological Section of the Tenth International Medical Congress, to open the discussion on the Induction of Premature Labor.

The Inoculation of a Criminal with Leprosy.—The *Transactions* of the First Dermatological Congress, held at Prague on June 10 and 12, 1889, contain a paper by Dr. Arning, who inoculated the condemned criminal with leprous tissue at Honolulu (*British Medical Journal*). Dr. Arning, in his paper, gives a detailed account of the circumstances connected with the inoculation, of the local manifestations which followed it, and of the subsequent condition of the man as reported to him from the Sandwich Islands. He summarizes the whole case as follows: An apparently healthy, strikingly vigorous man, without any hereditary taint of leprosy, was in the end of September, 1884, inoculated with lepra material, which was taken directly from a child who was the subject of grave tubercular leprosy, and who had passed through an attack of leprous fever. The chief inoculation consisted in the insertion of a small piece of a tubercle in the left forearm. Four weeks afterward there occurred rheumatic pains, first in the left shoulder, then in the other joints of the left arm, and later a painful swelling of the ulnar and median nerves, all these symptoms occurring without fever, and with very little constitutional disturbance. During the next six months the neuritis gradually abated, and there formed a small leprous nodule in the keloid-looking inoculation scar. In the edges of this keloid scar, sixteen months after the inoculation, lepra bacilli could be found. Then comes a gap in the continuous observation of the patient, on account of Dr. Arning's departure from Honolulu, but it is known that in December, 1887, there were unmistakable symptoms of leprosy in the man. After another year, in September, 1888, the patient was the subject of fully developed leprosy.

Goethe and the Influenza.—Lewes, in his "Life of Goethe," says of the poet's last illness that he had taken cold, and the physician on arriving "found him very feverish with what is known in Weimar as the 'nervous fever,' which acts almost like a pestilence." It is inferred from this that the great German died from the influenza.

Antiseptics in the Barber-shop. — The fears of microbes, which is rapidly becoming a dominant factor in modern life, has lately received a curious illustration at Nordhausen, a small town in Prussian Saxony. A municipal edict has been issued that all barbers, hairdressers, and "tonsorial artists" generally, shall, under legal penalties, well and truly disinfect their instruments every time after they have been used.

The New York Medical Union Banquet was held at Sherry's, corner Fifth Avenue and Thirty-seventh Street, on the 11th inst. Dr. H. S. Oppenheimer, the newly-elected President, proved a happy toastmaster, and introduced the following speakers: Dr. John Shrady, William A. Purrington, Esq., Drs. N. S. Roberts, W. E. Forrest, H. J. Boldt, Ralph Waldo, D. E. McSweeny, J. B. McMahon, and Dr. A. S. Hunter. The affair, which was much enjoyed by the members and their ladies, ended with a dance.

Society Reports.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Tuesday, January 7, 1890.

THE PRESIDENT, DR. GEORGE W. JACOBY, IN THE CHAIR.

Neurotic Tumors of the Breast.—A paper by DR. E. P. FOWLER, entitled "Neurotic Tumors of the Breast" (see p. 179) was read, in the absence of the author, by Dr. Ingram.

Seven clinical cases were adduced, giving their history, the treatment, and results.

Dr. Fowler inclined to believe that the cases cited gave reasonable ground for regarding these and similar ones as being dependent upon certain conditions of the generative apparatus, conjoined, possibly, with the spinal cord, depending sometimes, perhaps, on local hyperæsthesia and sometimes on local or general anæmia.

These cases seemed to accompany a more than ordinary sexual differentiation, a disposition to hysteria, profusion of hair, eyelashes and eyebrows darker than hair, lips full. The tumors were characterized by hardness, freedom from attachments, great sensitiveness upon light pressure (heavy pressure, though painful, might at the same time afford a certain degree of relief), no other glandular swellings, and great sensitiveness over the ovaries. There was also an indurated and sensitive cervix uteri, and often extreme sensitiveness along the cervical vertebræ.

The doctor found the subject of these troubles decidedly above the average in intellectual ability and quickness; apt to possess a strong religious bias, though not necessarily a firm moral groundwork. The treatment consisted in great degree of massage applied to the neck of the womb, the ovarian regions, and the cervical portion of the spinal column, and marriage alone might often furnish every requisite.

The tumors observed by Dr. Fowler have varied between the size of an English walnut and that exceeding the volume of a hen's egg.

The Proposed New Lunacy Bill.—DR. FREDERICK PETERSON presented for the consideration of the Society the proposed new lunacy law for New York State, which had been drafted by Dr. Stephen Smith, and which had last year passed both houses under the title of the "Gallup Lunacy Bill." It had failed to become a law through the Governor's indisposition to affix his signature. The bill would be re-introduced at this year's legislative session, and Dr. Smith was desirous of having the Society's criticism of its provisions previous to such introduction. It would be remembered that the bill was informally discussed at a meeting of the Society last Spring, when the manner of commitment proposed in it had been strongly condemned because of its complexity. Although somewhat revised in portions, there had been no particular change made in the paragraphs relating to commitment, which read as follows:

Examiners in Lunacy.—"Whenever a justice of the peace or a superintendent of the poor of a county, or the overseer of the poor of a town, or a judge of a court of record shall receive information that a certain person, deemed insane, should be placed in custody, for either of the causes stated in section first of this act (in accordance with Form B), the said justice, or superintendent, or overseer of the poor, or judge shall, by an order in writing (in accordance with Form C), direct two examiners in lunacy to examine the alleged insane person and report to him under oath within one day, exclusive of Sunday, after their respective examinations (in accordance with Form D), the results of such examination, with their recommendation as to the special action necessary to be taken in the case; if a justice of the peace, or a superintendent or overseer of the poor issues the order for an examination, he must personally visit the alleged insane person; if the physicians certify that the person so examined is not insane, the justice or superintendent or overseer shall dismiss the case, but if they certify that he is insane, and a proper subject for commitment, as provided in section one of this act, said justice or superintendent or overseer shall certify, under his hand, to the correctness of the proceedings and to his personal visit (in accordance with Form E), and shall cause said certificates to be delivered to a judge of a court of record within two days, exclusive of Sunday, of the date of the last certficate made, which last certificate must not bear date of more than two days of the first certificate.

Manner of Commitment.—"On receiving said certificates from a justice of the peace, or superintendent or overseer of the poor, or on receiving the sworn certificates of two examiners in lunacy, appointed by himself, certifying to the insanity of any person, and recommending that he be placed in custody for cause, then and in either case the said judge may or may not visit the alleged insane person, or require that he be brought into court, but he shall state in the order of commitment whether or not he saw him, and if he did not see him he shall give the reason therefor; the judge may or may not take further testimony, and he may call a jury, but in either case, if satisfied that the person is insane, and that the reasons given for his commitment in the certificates are just and right, he shall make an order (in accordance with Form F), committing said person to the custody of the superintendent of the proper State asylum for the insane, or the keeper or superintendent of a private asylum or licensed house for the insane; said order shall be issued within five days after the date of the last medical certificate; a copy of said medical certificates and answers obtained in accordance with Form D, shall be transmitted with the order of committment to the superintendent of the respective asylum and the original thereof shall be filed in the office of the clerk of the county, and shall be inaccessible except on the written order of a judge of a court of record; nothing in this section shall be construed to prevent the commitment of an insane person in accordance with the provisions of this act to the asylum of any county authorized by law to have the care of the acute and chronic insane, *provided* the said insane person is a legal resident of said county.

Lunatic Informed of the Action.—"It shall be the duty of the judge, before he makes the order of commitment, to cause the alleged insane person to be fully informed of the action about to be taken concerning him; and if said insane person, or his friends or relatives, demand that other testimony be taken, or that a jury be called, the judge shall act at his discretion, but if he deny the motion, he shall state the reasons therefor in the commitment."

There were many admirable reformatory features in the bill, of which physicians with asylum experience were cognizant. These related to the removal of patients to institutions by attendants of their own sex; the provision for the reception and discharge of voluntary patients; the commitment of emergency cases for three days without formal procedure; the forbidding of confinement of lunatics in jails for more than a limited period of time; the provision of home furloughs, for patients, of indefinite duration, at the discretion of the asylum physicians; and, finally, the boarding out of chronic lunatics in private families.

Dr. Peterson moved that a committee of five be appointed to examine the bill and present a report for discussion at the February meeting of the Society. The motion, after amendment by Dr. C. H. Brown, that the committee should consist of but three members, was carried.

DR. DANA thought that there should be some provision made also for the commitment of morphine and alcohol inebriates.

The President appointed as such committee, Drs. Frederick Peterson, Charles L. Dana and Ralph L. Parsons. The President becomes also a member *ex-officio*.

NEW YORK ACADEMY OF MEDICINE.

Meeting of January 2, 1890.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

ANNUAL reports were read, including that of the Committee on Library, by which it appeared that during the year the library had received 1,186 volumes, 3,541 pamphlets, and 21,000 numbers of medical journals.

The election of officers resulted as follows: *Vice-President*—Dr. R. C. M. Page; *Trustee*—Dr. Laurence Johnson; *Member of Committee on Admissions*—Dr. A. Caillé, and to fill vacancy, Dr. French, of Brooklyn; *Member of Committee on Library*—Dr. E. H. Grandin.

Mineral Waters of Aix-les-bains.—DR. BLANC, of Aix-les-bains, France, read a paper on "The Mineral Waters of Aix-les-bains and Marlioz, with Practical Considerations of their Action and Application" (see page 174).

Surgical Treatment of Peritonitis.—DR. W. GILL WYLIE read a paper on "The Surgical Treatment of Peritonitis" (see page 170).

DR. W. M. POLK, in discussing the question of operating in peritonitis, first divided the cases into those of local peritonitis and those of general peritonitis. He thought all would agree with Dr. Wylie that the chance of success in the latter class of cases was at best somewhat slight. Of course it would depend in some degree on the kind of poison which started the inflammation. Take, for instance, a general peritonitis caused by intestinal perforation, or arising from sepsis extending from the uterus after abortion or labor, becoming generally septic before the symptoms showed much severity—in such cases the results of operative interference had been anything but satisfactory.

Again, take those cases in which there was general peritonitis, yet in which, from the character of the lymph which had exuded, the septic element was not as virulent as in the other classes just alluded to, here the shock of an operation would often turn the balance against the patient. Consequently in general peritonitis all felt grave doubts regarding the result of treatment. If cleansing the peritoneum in general peritonitis would cure the case, it ought to have been proven in instances in which the inflammation had followed laparotomy, yet it was a pretty general rule to have death follow washing out the abdomen for general peritonitis following laparotomy. Yet he thought operative interference was indicated in the aforementioned cases as offering the patient the best chance of recovery.

He thought it was an excellent idea to break up the adhesions after washing out the cavity, as Dr. Wylie had advised, yet it should be remembered that usually in these cases the intestine was largely distended, and if one sought too assiduously for the seat of the difficulty he would be likely to have trouble from protrusion and great increase of shock. He would be disposed to use iodoformized gauze (not saturated) for the drain instead of a drainage-tube.

Seeing that the outlook was not favorable under any circumstances in general peritonitis, it seemed to him that the solution of the problem was to anticipate the general implication of the abdominal contents by an early incision. Here again, the cases being those of local peritonitis, should be divided into two classes, those which originated from perforation of some portion of the intestinal or digestive track, and those which arose from some difficulty connected with the uterus or its appendages.

As a sample of the first class, we might consider cases of appendicitis. Being called to a case, the physician would be able to recall instances of spontaneous recovery. On the other hand, he would remember cases in which the condition had become encapsulated and formed a local abscess. This abscess perforated, or was opened by the knife, sometimes as late as the tenth day. But in other cases the local symptoms were followed promptly by those of general peritonitis, and nearly always terminated fatally. In view of the fact that an exploratory incision performed with the precautions exercised to-day was attended with very little danger, he thought we were justified in laying down the general proposition that in all cases of local peritonitis falling under the first class an exploratory incision should be made.

In the second class, if the local peritonitis followed a labor or abortion, it was likely to become general and cause death. Here he thought the patient was given the best chance by opening the abdomen and seeking to remove the infectious matter. But where the local peritonitis was due to gonorrhœal infection, or to traumatism inflicted upon the uterus by the use of the sound, etc., clinical observation had shown that usually there was a minimum amount of sepsis, the peritonitis remained localized from first to last; it might resolve, it might go on to the formation of a pelvic abscess. If the abscess perforated it rarely involved the peritoneum. In these cases he would not make an exploratory incision unless there were indications of the case becoming one of general peritonitis.

DR. A. G. GERSTER said the subject was so vast that he would attempt to speak of only a few points. He thought wider observation would be necessary before we could formulate as precise indications as Dr. Wylie would do. He wished to state, in a general way, that the parallel drawn between local peritonitis due to affections of the uterine appendages, and that due to some affection of any portion of the intestinal or digestive tract was hardly fair. It was known that most of the cases of the former class, treated by laparotomy by the gynecologist, were of a chronic character, and in the vast majority there was no immediate danger to life. There were other considerations which induced the patient and surgeon to reach out for such a method of cure as laparotomy. Besides, there was no use of denying that laparotomy was, after all, a more dangerous operation than some constantly asserted. Another fact which had an influence on the result was, that most women operated upon with local peritonitis due to some affection of the uterine appendages were comparatively young, and their powers of resistance were still good. On the other hand, those forms of local peritonitis which the general surgeon had to deal with, starting from the intestinal tract, were generally very acute, were accompanied by great depression of the vital powers, and it was much more doubtful whether the patient could withstand the added shock of the operation.

While he wished to say that exploratory laparotomy, when done early, was not very dangerous, yet, in the class of cases which came under the care of the general surgeon it frequently was dangerous. Many of the patients were old men and old women, and an operation, which was necessary to clear up the diagnosis, though harmless in other cases, was frequently followed by death, not from peritonitis, but from the shock of the operation or some complication involving the respiratory tract or kidneys.

A recent illustrative case was given, that of an old man who had been suffering from intestinal obstruction. A tumor was noticed to develop to the right of the umbilicus. His general condition becoming worse and worse, a surgeon was finally called to take the place of the irregular practitioners. Some affection of the liver was suspected, and Dr. Gerster made an exploratory incision. The gall-bladder was found adherent to the abdominal walls, and distended. Puncture brought forth a large quantity of characteristic fluid, proving that their surmise was correct. The exploratory incision was closed. The patient had stood the operation well, but next day there was absolute suppression of urine, and he died in uræmic coma. The post-mortem showed cancer of the intestine, secondary involvement of the mesenteric glands, and extension of the disease to the cystic duct, which was occluded, and the bladder distended.

Stated Meeting, January 16, 1890.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

Donation to the Library.—The widow of Dr. Horace P. Farnham presented to the Academy ten thousand dollars as a permanent library fund, to bear the name of her deceased husband. It was accepted with a vote of thanks to Mrs. Farnham.

Change of Meeting Hour.—A resolution was adopted, changing the hour of meeting from 8 to 8.30 P.M. The President stated that the reading of reports of sections would be dispensed with, and the proceedings would begin promptly at 8.30. One of the meetings each month would be devoted to one of the sections, the sections to be called upon in turn.

The Treatment of Typhoid Fever.—DR. WILLIAM H. THOMSON read a paper on this subject. The question whether we were able to materially modify the course of an acute disease, commonly marked by a high percentage of mortality, by treatment was one of great interest. But like all important questions in therapeutics, it was very difficult of solution, though, for given reasons, apparently less difficult in the case of typhoid fever than in diseases which ran a shorter course. In studying this question we had to refer to statistics. Most cases were seen in hospital practice, and in some respects these afforded better opportunities for observing the effects of treatment than cases seen in private practice; but they had the specially objectionable feature usually of coming in late, and of occurring in unfavorable subjects. Besides, in Roosevelt Hospital, each physician's service continued but two months at a time. The reader analyzed the number of cases recorded as cases of typhoid fever, in the Roosevelt Hospital, from 1881 to 1889, inclusive. Total number, 379. Total deaths, 69, or 18.2 per cent. Of these deaths, however, 24 were within five days of admission. It was but fair to exclude these as having been uninfluenced by treatment, in which case the mortality would be 45, or 11.87 per cent. Of the total number, 163 entered the hospital during his term of service, which included September and October—the months when most cases of typhoid fever developed. His death-rate had been about 10.32 per cent., excluding those which died before the fifth day after admission. There was a high percentage of relapses, 24.5 per cent. There was intestinal hemorrhage in 4.9 per cent.

The Food.—His special endeavor in the treatment of typhoid fever was to fulfil two indications: first, to properly feed the patient; second, to bring about intestinal antisepsis. In this disease there was characteristic diminution of the peptic power of the gastric glands. It had been shown by Fenwick and by Lewis, many years before, that the gastric membrane lost nearly half its bulk in typhoid fever, and also to a large extent its functional activity. Dr. Thomson consequently diluted the milk which he gave these patients one-half or more with lime-water. Besides, lime-water was no mean antiseptic. He would no more think of giving beef-tea to a typhoid fever patient than to an infant. It was very liable to ferment and cause tympanites.

Intestinal Antiseptics.—The juices of the gastro-intestinal tract had two functions to perform, those of digestion and antisepsis. He knew of but two substances which possessed these qualities when introduced from without, and yet which were not poisonous in their action. They were pepsin (he preferred the saccharated) and hydrochloric acid. These he administered freely. There was no better antiseptic in these cases than subcarbonate of bismuth. Ten grains each of pepsin and subcarbonate of bismuth, and fifteen drops of hydrochloric acid, every three hours, caused great diminution in the tympanites and promptly checked diarrhœa. He very seldom prescribed opiates or astringents, yet there was one drug reputed to be an astringent which he not uncommonly gave in typhoid fever, namely, nitrate of silver. Combined with resin or oil of turpentine, it was the best remedy for diarrhœa and chronic dysentery. One-fourth of a grain of nitrate of silver, one-fourth of a grain of morphine, ten drops of oil of turpentine, every three hours, when there was meteorism and dryness of the tongue.

High Temperature not Necessarily a Bad Indication.—His objection to all those antipyretics which belong to the coal-tar or carbolic acid series, including quinine, antifebrin, antipyrin, etc., was that they were all muscular depressants, working mischief on the heart, vascular system, and bronchial muscles. This objection did not pertain to cold employed judiciously as an antipyretic. He had since 1871 used the cold bath, also the cold pack, and more recently the cold coil, as soon as the temperature began to rise above 104° F. He had not seen much advantage in using it sooner, and none in employing it as routine treatment, for some patients never took kindly to it. In general the after-effects of cold were far more marked and permanent than any he had witnessed from the reduction of temperature by antipyretic drugs.

Calomel.—Calomel was always given to move the bowels in patients sick less than a week before entering the hospital.

Inunctions.—An inunction of the entire body was given twice a day.

Experience in the Franco-Prussian War.—DR. THOMAS E. SATTERTHWAITE had been surprised as well as interested to find how closely his own ideas of the treatment of typhoid fever corresponded with those of Dr. Thomson. In the German army, during the Franco-Prussian war, they tried cold water as advocated by Liebermeister, also quinine in large doses, and treatment by stimulation, all kinds of stimulants being tried; but at first they failed. Finally they settled down on this plan: The bowels were first moved by calomel. The nausea, vomiting, and constipation being overcome, little more was done the first week. The second week they began the use of intestinal disinfectants—muriatic acid, usually with ipecac for bronchitis. The third week they added to the muriatic acid a little cinchona as a tonic. The fourth week, when the heart began to fail, they gave light wines. They guarded against relapses by continuing liquid food during convalescence. He was not, however, a believer in the idea that the relapses were brought on by errors in diet. The evidence was that there was real recurrence of the disease. The important point in treatment, however, was proper diet. He gave milk, and diluted it with lime-water. Large quantities of fluid were called for. The main point in treatment was not to overmedicate; better undermedicate; not to overstimulate; not to give too much food.

The Simplest Antipyretic the Best.—He said the coal-tar series of antipyretics had never met with his approbation. Much of the danger of typhoid fever was due to sepsis, which arose from the condition of the bowel. Muriatic acid was a safe antiseptic and antipyretic.

Medicine will not Abort the Disease.—DR. E. G. JANEWAY referred to outbreaks of typhoid fever in the institution for the Deaf and Dumb and in the Roman Catholic Orphan Asylum, which showed that the disease might run a very mild course, or terminate in from three to five days, without medication. Had medicine been given in cases of that kind, one might easily fall into the mistake of supposing that the treatment had caused the disease to abort. We might give one or more doses of calomel in the beginning of the disease, but it was extremely doubtful whether we accomplished, by any so-called abortive treatment, what we expected, or thought we did.

Antipyretic Drugs Useful.—He had found the class of antipyretics which had been referred to as the coal-tar series extremely serviceable in many cases where formerly he used cold. This latter method of reducing the temperature was very good in its way, but often antipyretic drugs rendered the patient's condition comfortable with the least disturbance possible. If there was a weak heart, use at the same time some cardiac stimulant. He pre-

ferred digitalis, or caffein, alone, or in conjunction with camphor in some form. The latter was not only a stimulant, but also an antiseptic. He did not think it advisable to give strophanthus, for it sometimes produced diarrhœa, probably because of some impurity as at present manufactured.

Antiseptics.—These might come in where there was beginning ulceration of the bowel. Stimulants also had their place—whiskey for the poor, since it was least likely to be adulterated. Solid food should not be given until some days after the temperature had become normal.

Gives Beef-tea.—Dr. G. L. Peabody thought that beef-tea, although not a food, was useful as a cardiac stimulant and stimulant of the appetite; it required no special power on the part of the stomach to absorb it. He did not dilute milk until there was evidence that the stomach could not dispose of the pure article; he then added a little lime-water, or gave peptonized milk.

Allows some Solid Food.—He gave some solid food, as finely divided chop or steak, even before the fever had terminated, and had not known it to cause relapse or do harm. When relapses had taken place, they were due to reinfection. The patient should not get out of bed until two weeks after fever had subsided. Like Dr. Thomson, he gave turpentine when there was dry tongue and meteorism. So far, he had not been very favorably impressed with his experience in the use of intestinal antiseptics. Small doses of antipyretics had in many cases added to the comfort of the patient, but his favorite treatment was the use of cold. This had stood the test of greatest experience the world over. The best method of application was by the cold bath. The next best was the cold pack.

Statistics of Roosevelt Hospital Imperfect.—Dr. J. West Roosevelt said the records of cases of typhoid fever in Roosevelt Hospital were incomplete, and deductions based upon them not very reliable. He also gave some solid food (meat), and said it was not more likely to decompose or produce more waste material than milk.

Nitrate of Silver for Intestinal Hemorrhage.—Dr. Carpenter, of New Jersey, believed in antiseptic treatment by subcarbonate of bismuth. He had once had a number of profuse bloody passages during an attack of typhoid fever, which ceased when Dr. Thomson prescribed for him nitrate of silver. Since then he had seen seven or eight cases in which the hemorrhages were checked by this remedy, all recovering, while formerly he had lost three such cases.

How to Give Muriatic Acid.—Dr. A. Jacobi remarked that pepsin without muriatic acid was inert in these cases. A good way to give dilute muriatic acid was to put half a teaspoonful into as much water as one gave of milk (boiled) and mix the milk and water. Thus administered milk would not coagulate in hard lumps.

Camphor Hypodermatically.—Dr. Jacobi said, regarding camphor, that it was one of the most persistent and powerful stimulants, and in heart failure might be administered with advantage hypodermatically. Regarding strophanthus, he also had found it unreliable. He did not believe we could abort typhoid fever, but could often make the attack milder.

Gives Naphthalin.—He believed in giving calomel, and in the antiseptic treatment, and in this connection spoke well of naphthalin, which he administered in every case in hospital practice.

Three Causes for the Fever.—Dr. A. H. Smith thought the fever during the course of the disease might assume three types, according to whether one or another of three causes existed. The first cause was the typhoid poison proper; the second was that of septic infection through intestinal ulcers; the third, fecal infection. On this foundation he based his treatment.

Treats Cases by System.—Dr. Simon Baruch deprecated the fact that the discussion had not shown more general and systematic use of the cold water treatment.

Dr. Thomson closed the discussion.

A Reform in Artificial Infant-feeding.—Dr. August Seibert read a paper on this subject, and exhibited an improved sterilizing apparatus and nursing-bottle, and stated that the weight, not the age, of the infant should determine the amount of food to give it. He pointed out advantages of his method over those of Soxhlet and Escherich, not the least important of which was the very cheap price of his apparatus (one dollar).

On motion the discussion of this paper was referred to the Section in Pædiatrics.

SECTION ON THEORY AND PRACTICE OF MEDICINE.

Stated Meeting, January 21, 1890.

R. C. M. Page, M.D., Chairman.

Election of Officers.—Dr. Francis Delafield was elected Chairman, and Dr. C. E. Quimby Secretary, for the ensuing year.

The Physiological Treatment of Obesity.—Dr. Walter Mendelson read a paper on this subject (see p. 176).

Dr. S. Baruch said that if medicine was ever to reach the status of an exact science it would be only through the agency of such contributions as that presented this evening. Physiological facts and empirical data together must form the basis of our knowledge. The author of the paper had confined himself principally to the prevention of obesity by the regulation of the diet, and to the reduction of fat by means of high temperature and muscular activity. Voit had proved that the consumption of the nitrogenous elements is principally through the muscles. Whatever would increase the tissue metamorphosis would reduce the fat in the body. Winternitz had shown that the impression of cold upon the external surface had the effect of increasing the physiological activity of the muscles; the first impression of cold being followed by an increased temperature.

Cold Baths.—In prescribing the external application of cold for the reduction of obesity, however, it would not answer simply to tell our patients to take cold baths. Friction was required while the individual was in the water, and it was therefore necessary either to have a swimming-bath, or to make use of Charcot's douche, in which jets of water propelled by a pressure of two or three atmospheres impinged upon the surface of the body for a brief period of time. Better than either of these was the use of the vapor-bath. It had been demonstrated by actual experiment, that the increase of temperature incident to the latter, promoted tissue metamorphosis to a very marked degree. In this procedure, however (as well as all others in which hydrotherapy was employed) it was important that the treatment should be applied with intelligence and precision. As regards the Turkish bath, while it was true that during each sitting from one to five pounds were lost, it was also a clearly established fact compensation afterward occurred; so that the patient gained nothing whatever, so far as the permanent reduction of fat was concerned. But after the vapor-bath there was decidedly less compensation, and it was therefore of decided service in the treatment of obesity. The vapor-bath followed by the cold douche (in addition to the proper regulation of the diet and general attention to the hygienic condition of the patient), would, he believed, afford results that could be secured by no other means.

Turkish Baths and American "Tipple."—Dr. Baruch then referred to the luxurious habit which many of the ladies in our large cities had acquired of frequently taking Turkish baths. This had been acquired in the first instance through the desire of these ladies to reduce themselves, and once acquired it was often very difficult to get rid of. His attention had been first directed to the matter by an article in an English periodical, which described the fair leaders of New York society as frequenting the elegantly appointed Turkish bath establishments,

and often enjoying the luxury of the hot chamber followed by massage, often whiling away many hours upon oriental divans, in drinking wines, cordials, and even stronger alcoholic beverages. He was astonished by this account, he said, and believed it to be a libel upon our American women; but he determined to investigate the matter, and he had found to his surprise and pain that there was a great deal of foundation for the statements made. This he considered a serious evil, and he thought it was the duty of physicians to diminish it as far as they could. The habit could be usually broken up if we succeeded in convincing those addicted to it that the Turkish bath has absolutely no effect in reducing fat.

The Cause of Fatness.—Dr. C. E. Lockwood said that, in opposition to the views expressed in the paper, Fleming, and he believed Virchow, held that the deposition of fat was due to the dilatation of the blood vessels in the loose connective tissue. The precise cause of obesity seemed therefore to be as yet undetermined. The causes for the increase of fat in the body, he thought, might be divided into the knowable and the unknowable. First among the former was heredity, although it was a very difficult matter to explain why some individuals should have this inherited tendency. Then there were sex and age to be taken into consideration. Females were more liable to obesity than males, and in infants and persons between the ages of forty and fifty fat was apt to accumulate. In certain climates and among certain races also the same tendency was shown. Then, again, certain nervous influences appear to promote obesity, and especially the abrogation of sexual power. In certain diseases, as well, such as chlorosis and anæmia, for instance, there was often an increase of adipose tissue.

Not Depress the Vitality of the Patients.—It was therefore of great importance that we should not depress the vitality of our patients by the treatment adopted. The oxidizing power of the blood was diminished by an excess of food and the use of strong alcohol; and he thought that *all* the kinds of food taken should be gradually and uniformly reduced in quantity, at the same time that means were taken to improve the oxidizing power. It was always necessary to watch very carefully the general condition of the patient, and especially the action of the heart. Cold baths with friction he believed to be of great service. In conclusion he referred to the baths and springs of Europe, and said that, when at Carlsbad in the summer of 1887, he had been struck with the faithful manner in which patients carried out the directions given them regarding the dietetic and hygienic regimen which was so admirably adapted to accomplish the purpose desired.

Carlsbad Treatment.—The Chairman said that people went to Carlsbad for the express purpose of getting thin. Extreme caution was necessary, however, lest the treatment should be carried too far, and he knew personally of a number of cases where organic disease had thus been produced which led to the patient's death. It was essential, therefore, that the fat should not be reduced too fast, for fear of inducing grave organic disease.

Cardiac Troubles of Fat People.—Dr. Mendelson, in closing the discussion, said he was sorry that nothing had been said by any of the speakers in regard to heart disease in its relations to obesity. In cardiac troubles it was well known that there was often a tendency to obesity, though in many instances there was present simply a feeble heart. An excess of water taken into the system would throw an excess of work upon the heart, and there was therefore likely to result a faulty circulation. Hence the necessity of cutting down the amount of fluid used to the lowest possible point in individuals with feeble heart. In his paper he had not referred particularly to hydrotherapy in the reduction of obesity, as he regarded this as comprehended under the general head of exercise, upon the utility of which he had laid stress. He had one criticism to make upon the views expressed by Dr. Lockwood, and that was in regard to his advocacy of the reduction of all classes of food. This he considered the great fault of the Banting system, and, if the plan was adopted, the patient was sure to grow weak, and suffer much inconvenience. For the reasons which he had given in the paper, the great point, as far as the diet was concerned, was to increase the quantity of albuminous food, and cut down the amount of starch and fats taken.

The Epidemic of Influenza.—Dr. Louise Fiske Bryson read a paper on "The Present Epidemic of Influenza." She gave a carefully prepared historical sketch of epidemic influenza down to the present time, and stated that there was considerable ground for believing that the disease was endemic in some parts of Russia, Northern Asia, the lake region of the United States, the Caroline Islands, and perhaps other localities. She considered the affection contagious to some extent, and possibly due to a specific germ, although none had as yet been discovered. She was inclined to the opinion that outbreaks were due to certain astronomical influences which destroyed the electrical equation. At all events, the atmospheric conditions prevailing seemed to have had much to do with the causation of the present epidemic. Having described the symptoms as observed in former epidemics and at the present time, she drew a comparison between *la grippe*, epidemic cerebro-spinal meningitis, and dengue. The rate of mortality of the disease was only about 2 per cent.; but when the vast number of persons affected by it was considered the total number of deaths could not fail to be very great. There was no specific treatment. Rest in bed and perfect quiet were regarded as of the utmost importance, and alcohol was contra-indicated except in special emergencies.

Due to Infectious Germ.—Dr. C. L. Dana said that the journals had told us that the present epidemic began in St. Petersburg about the middle of November, and he believed that it was about the middle of December that the disease made its appearance in New York. In his opinion the whole course of this affection showed conclusively that it must be due to an infectious germ. If we could draw any conclusions from analogy, influenza, like other specific diseases, was caused by a specific microbe of some form or other. But if this was the case, it was manifestly impossible for such a contagion to travel from St. Petersburg to New York in the short space of one month. In order to accomplish this feat it would have to be a much more rapid traveller than any known form of contagion. We were, therefore, forced to a second conclusion, viz., that the germ has been in this country. The microbe of epidemic influenza was not a thing borne by the wind or carried by individuals, as the cholera germ was, but it was distributed throughout the world. There seemed to be concerned in the production of this disease, further, some epidemic influence, whether telluric, electric, or of some other sort; although the speculations on this point had not as yet proved very fruitful. He understood that in Vienna it had been claimed that the specific microbe of *la grippe* had been found, although it had not as yet been proved to be capable of reproducing the disease. He did not believe, however, that this important discovery had yet been made.

Dr. Dana's Own Experience.—Dr. Dana then proceeded to speak of his own experience as regards the nervous manifestations of the present epidemic. He said that a Russian authority had divided the cases into three classes, nervous, catarrhal, and gastric. As far as he had been able to learn, the catarrhal and gastric varieties had been met with here, but the purely nervous form did not seem to have appeared, or at least to any noticeable extent. He had met with one case in which there was no chill (though some chilly feelings) or fever, and no catarrhal trouble, but in which almost the only symptom was excessive weakness. He had seen one patient in whom mania appeared after *grippe*, and another in whom encephalitis developed. In the newspapers also several cases had been reported in which mania accompanied the disease. In one case which he saw facial paralysis occurred, and in a

child there were symptoms of polio-myelitis. He believed that in this instance, however, there was nothing more than a congestion of the spinal cord caused by the epidemic influence. He had met with a good many cases of facial neuralgia, but they all seemed connected with the affection of the nasal passages. The most characteristic nervous phenomenon of the epidemic was the prostration so commonly noted, and this he believed to be the effect of the specific poison of the disease upon the heart, as was the case in other zymotic affections. This would explain why the cardiac stimulants proper were more efficient than agents like alcohol, quinine, and iron.

The Ages of Those Attacked.—Dr. W. P. Northrup spoke of the ages of the patients attacked. In the New York Foundling Asylum, where there were between seven hundred and eight hundred inmates, not a single diagnosis of influenza had been made among the children under two years of age. Some of them which were wet-nursed by women suffering from the disease fell away a little, and occasionally there was a moderate attack of diarrhœa among them, but this was all. Among the "run-abouts," however, children from three to five years of age, something like fifteen or twenty per cent. suffered. The attack was usually characterized by moderate febrile movement and more or less bronchitis; but all the children rapidly and completely recovered. Almost the entire number of those affected came down with the disease within the space of two or three days. After that there were but two or three sporadic cases. It was noticeable that there were more than the usual number of pneumonias in the house at this time of the year; but, on the other hand, the disease was less fatal than usual.

Among the adults in the establishment who were affected with influenza all the severe cases occurred in those between the ages of eighteen and twenty-five. Of the entire number of inmates who were from two to twenty-five years of age, about eighty per cent. had the disease; though many of the cases were very mild. In one case there was a well-marked symmetrical erythematous eruption. In this instance the temperature rose to 103° F., there was green vomiting and angina, and the whole attack closely resembled scarlet fever. Among the young women there were several severe cases of pneumonia and one case of Bright's disease. One curious feature about the epidemic in the Foundling Asylum was that all the wards were visited by it except one. In this ward there were sixteen "run-abouts," six nurses, and numerous infants; but not a single case occurred there, although there were many cases in the wards just above and below it. It was also worthy of note that in the Maternity none of the women awaiting confinement were attacked.

Fifty Old Ladies Escaped.—Out of fifty-two old ladies at a Home where Dr. Northrup attends only two suffered from the influenza. These two cases were of moderate severity, but typical in character. Among the attendants at this institution six out of fourteen had the disease and were quite sick with it. In private practice he had seen one case with the eruption. It was a papular erythema, symmetrical on the two sides of the body, and attended with a great deal of itching and burning.

Treatment.—As to the treatment, he desired to say that he had not used one grain of antipyrine among his patients. The reason for this was the unfortunate experience which he had once had with the drug. In this instance he prescribed fifteen grains of it, and it produced extreme depression, so that the patient became pulseless, and he was much alarmed. Notwithstanding this untoward effect, the patient was willing to take five grains of antipyrine afterward, and in this quantity it gave rise to a troublesome and painful urticaria and to such distressing dyspnœa as he had never seen except in occasional cases of Bright's disease.

The Eye Symptoms.—Dr. T. R. Pooley said that, when he was himself affected with the disease, he took great interest in studying the eye-symptoms in his own case; and he found that at a recent meeting of the Ophthalmological Society a great many of those present had noticed the same symptoms in patients suffering from influenza. Dr. Hackley, who, in addition to being an oculist, had an extensive general practice, had found them present in a very large percentage of cases. There was a sense of pain in the eye, particularly upon movements of the organ, and very often a deep-seated pain in the orbit. In his own case there was very marked asthenopia, which was the more noticeable from the fact that ordinarily he did not suffer from asthenopia at all. The symptoms referred to were only transient, and it had not yet been shown that any permanent disease of the eye ensued. He supposed the trouble to be simply a weakening of the ocular muscles, such as was met with in other diseases producing exhaustion. In his own case he could feel that there was paresis of accommodation. He had met with only one or two cases in which the conjunctiva was affected, and in these he thought it very possible that the patients had had catarrhal conjunctivitis before they were taken with the influenza.

He had of late seen an unusual number of cases of acute inflammation of the middle ear, and they all seemed to be attributable to the effect of the epidemic and to be connected with catarrhal inflammation of the throat and air-passages. In such cases examination showed hyperæmia of the drumhead, and in some instances there was perforation of the latter.

The Ear Troubles.—Dr. O. D. Pomeroy said that he had met with a larger number of cases of ear-trouble than of eye trouble as a result of the influenza. Both these classes of affections seemed to occur some little time after the disease had spent its force. At the Manhattan Eye and Ear Hospital he had some six or seven cases of catarrhal conjunctivitis, and one case of very severe ulceration of the cornea. In one case not in his own clinic there was complete ecchymosis of both eyes, such as was sometimes observed in whooping-cough, where it was no doubt due to rupture of the blood-vessels from the violence of the cough. In the case in question, also, the patient suffered very greatly from cough. All the principal symptoms alluded to by Dr. Pooley had been likewise noticed by himself.

As regards the ear, purulent otitis of an acute character was quite common. In this the discharge was very great, and spontaneous rupture of the drumhead not infrequently occurred. There appeared to be about four purulent cases to two catarrhal ones. The purulent cases were apt to be very violent, and in one instance that he had met with there was mastoid periostitis. The ear symptoms seemed on the whole to be more frequent and of a graver character than was the case in scarlet fever; and they were all probably caused by the spreading of an inflammatory process from the throat through the Eustachian tube, and thus affecting the middle ear.

The Chairman spoke of the tendency of epidemic influenza to be complicated with capillary bronchitis and pneumonia, and said that he himself and others of the Section would like to hear from Dr. Francis Delafield what kind of pneumonia was met with in connection with the present epidemic.

Frequency of Bronchitis and Pneumonia.—Dr. Delafield said that he supposed every one had been struck with the frequency with which both bronchitis and pneumonia had occurred. As regards the bronchitis there were two things which had repeatedly attracted his attention. The first was the very satisfactory way in which the apparently very bad cases got well. Often there was great difficulty of breathing, with considerable rise of temperature, and expectoration of blood as well as mucus. Yet he had been surprised to see how well such patients had done, and in what a comparatively short time improvement began to take place. The second point was the large number of individuals who, while they had a general bronchitis, as far as the large tubes were concerned, and a localized bronchitis involving the smaller tubes, yet remained free from any implication of the lung-

tissue. This class also, in his experience, had done well.

As to the pneumonia, he thought that every one must have been impressed with the fact that almost all those who were attacked by pneumonia had with it a great deal of bronchitis. In these cases of pneumonia there was a considerable difference, and he had observed altogether four classes among them.

In the first the cases were very mild. The temperature did not run high and there was very little dulness on percussion. There were some subcrepitant râles over a portion of the lung, but these cleared up within a few days.

In the second class of cases the patients did not seem to be very ill, and did not have a very high temperature, but they had considerable bronchitis and perfectly well-marked consolidation of one lobe for one or two weeks; and after that they got well.

The third class was composed of those who had fully developed consolidation of the lung which went on for quite a long period. The temperature rose perhaps to 104° F., and did not go down. After ten, or even twenty, days it would still be found that the consolidation had not cleared up. In many instances, however, after this very long period, the lung did clear up, the temperature fell, and the patient got well.

The fourth class was made up of the very bad cases. In most of these, together with the pneumonic consolidation, there were evidences of a great deal of bronchitis. The action of the heart was poor, and there were collections of blood in the veins. When this condition had been established the heart's action grew very rapid and feeble, and expectoration became suppressed. Such patients seemed to do badly, no matter what course of treatment was pursued. Some seemed to be relieved for a day or two, and then the grave symptoms all came back again. In a smaller number death occurred as in ordinary lobar pneumonia.

Dr. Lockwood spoke of the great usefulness of antipyrine in relieving the neuralgic pains so constantly met with in *grippe*, and stated that for the cough he had found muriate of ammonia, in combination with other remedies, of the greatest service.

Dr. Wood said that he thought a note of warning ought to be given in regard to the use of antipyrine. This, he was convinced, was an agent which was quite capable of complicating the disease very seriously a little later on in its progress, if it did not at the outset. Its administration was apt to be followed by cold perspiration and a relaxed condition, and, if much bronchitis was present, it was liable to produce great depression unless employed with extreme caution.

Navy News.

Official List of Changes in the Medical Corps of the United States Navy for the week ending February 8, 1890.

Jones, W. H., Surgeon. Ordered to the Swatara.

Hudson, A., Medical Director. Died February 7th, at Mare Island Hospital, Cal.

Salt for Facial Neuralgia.—At a recent meeting of the Edinburgh Medico-chirurgical Society, Dr. George Leslie reported between thirty and forty cases of facial and other neuralgia, cephalalgia, odontalgia, etc., which had been cured, in most instances instantaneously, by insufflation of powdered common salt through the anterior nares. The salt was either "snuffed" or blown up the nostrils. He had been unsuccessful in only two cases; both of these were cases of old standing, which had been treated frequently by morphine injections. In one of them excision of the nerve had been practised.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 8, 1890.

	Cases.	Deaths.
Typhus fever	1	0
Typhoid fever	9	4
Scarlet fever	88	10
Cerebro-spinal meningitis	3	2
Measles	80	10
Diphtheria	123	34
Small-pox	0	0
Varicella	1	0
Cholera	0	0

Babies Born with Measles.—Dr. C. F. Darnall, of West Union, Ia., writes: "Under discussion of babies being born with measles, I report: March 17, 1888, I was called to see Mrs. R——, a young German woman, seven and a half months pregnant, who was sick with measles, and was at the third day of the eruption. She was coughing violently and suffered some pain in the lower abdomen. Knowing well that she might be confined, I took what precautions I could against that, and promised to call the next day. When I reached her the next afternoon I was just in time to deliver the placenta, apply the bandage, and superintend the care of the child. It was a small, puny girl, covered with the same eruption as the mother, and lived two days, and then succumbed to capillary bronchitis. The mother made a good recovery."

Not Snake-bites.—Dr. G. L. Pritchett, of Fairbury, Neb., who has lived all his life in the region of rattlesnakes, says that the first case related by Dr. Thomas, of Alexandria, Neb., only proved that the treatment was not persisted in sufficiently long, and that the second case was evidently not a snake-bite at all, but merely one of traumatic erysipelas.

Bromine in Diphtheria.—Dr. H. L. Manchester, of Pawlet, Vt., writes: "Will you allow me to correct a mistake which Dr. Ayer seems to have made in regard to my mention of the use of bromine in diphtheria. I did not lay claim to priority in the matter at all. As a matter of fact, I used it first because Professor W. H. Thomson, of the Medical Department of the University of the City of New York, strongly urged it upon the class of '79, of which I was a member. I do not remember of reading anything regarding its use in this disease recently, and I wrote to call up the matter and ascertain if it had fallen into general disuse. It seemed a valuable remedy, and I did not wish those who are annually starting on the road to fame and wealth, by practising 'physic,' to lose sight of it. I confess ignorance of Dr. Goldsmith's articles on this particular use of bromine, although aware of the value of his labors with it in other fields. I desire to relieve myself of the absurd position of claimant of a new disinfectant in diphtheria by mentioning bromine in that capacity."

French and Foreign Doctors.—American doctors already established in France, or who may wish to pitch their tents there, are deeply concerned in the bill recently laid before the Chamber of Deputies by M. Chevandier, of the Drôme. That bill, which will soon come into discussion, provides for new regulations in regard to the licensing of native physicians, and also in regard to the admission to practice in France of foreign doctors. It is known that the professional exercise of medical talents is not free in France. It is permitted only to those who have studied regularly at the "Faculties of Medicine," which are themselves governmental institutions placed un-

der the directorship of the Minister of Public Instruction. Those who have studied for five years at those faculties, and have successfully passed the final examination, are officially recognized as doctors. Those who have only followed for two or three years the classical course of the faculties are recognized merely as "officers of health," and usually practise in small towns or villages. The new bill requires the abolition of that class of medical men. But it is unlikely that the suppression will be voted; for the "health officers" in France are good physicians. The country is already not too well provided with that class of useful men, and the number of them is decreasing, instead of increasing, proportionally to the population. In 1847 there were in France 18,099 physicians of both degrees; at the last census, in 1881, there were only 14,846. In some out-of-the-way places, like in the Department of the Lower Alps, there was only one physician to each 12,000 inhabitants. The second proposition in M. Chevandier's bill relates to the conditions to be required from foreign doctors previous to allowing them to practise in France. The rule was formerly, and is still now, that a foreign doctor having his diploma from a foreign medical university, school, or faculty, could practise in France, provided he should be allowed to do so by the government, which usually granted the said permit to be issued on a mere application, by the Minister of Foreign Affairs. The new bill requires that such permits shall be granted hereafter only after the foreign applicant shall have passed successfully through an examination before a French "faculty of medicine," on the same conditions as those imposed on the French medical students. In fact, M. Chevandier's bill considers as naught the diplomas obtained from foreign faculties; and this second portion of the bill may be voted more easily than the first. In many parts of the country, and especially in the watering-places and pleasure resorts, foreign doctors, mainly Americans, are driving a hard competition with their French colleagues, whose profession numbers sixty-two members in the Chamber of Deputies. It cannot be denied that the good renown of American physicians has greatly suffered from the recently discovered bogus medical universities in the United States, and from the knowledge that bogus diplomas were ground out by the bushel by bogus professors and doctors.—*New York Tribune.*

Scratching the Back for Intermittent Fever.—Dr. Alois Fénykövy communicates to a Vienna medical journal an account of some observations made on the treatment of intermittent fever by means of friction of the back along the spine. Many years ago, while at Nisch with his regiment, there occurred so many cases of intermittent fever that the stock of quinine was becoming exhausted, and, in order that the patients might not be entirely without some sort of treatment, it was ordered that they should be rubbed twice a day along the spine with simple ointment. The day after this order had been given it appeared that the usual attack had not come on; accordingly, since that time Dr. Fénykövy has very frequently employed this treatment, and usually with marked success. Indeed, he says that three-fourths of his cases have done very well without any quinine at all.—*The Lancet.*

Gaseous Cysts of the Neck.—Dr. L. H. Petit has published a monograph on these cysts, known to previous authors as "aëroceles," "bronchoceles," "laryngoceles," or "tracheoceles." The author concludes that there exist in the neck air-holding tumors produced by a communication between the larynx or trachea and the cellular or interfascial spaces in their neighborhood. The predisposing causes may lie in normal structures, the ventricles of the larynx or the membrane uniting the tracheal rings posteriorly, or in anomalies of those structures, or in pathological changes in the mucous membrane or cartilages, or in wounds of the trachea. Violent coughing or straining may set up a gaseous cyst. These cases begin either by a direct hernia of the laryngeal or tracheal mucosa, or by passage of air through a rent or ulcer in the same into the adjacent tissues. Hence, a gaseous cyst may have a distinct lining membrane, sometimes consisting of the herniated mucous membrane, or may lack any true wall, as in ordinary emphysema of connective tissue. The circumscribed type sometimes develops suddenly, sometimes grows suddenly long after development, and in other cases increases slowly but steadily from first to last. Whenever the communication with the air passage closes early and completely the gaseous tumor remains as a rule stationary. When the communication remains unobstructed the tumor feels soft and flaccid during rest, but enlarges rapidly during expiration, coughing, or straining, diminishing on compression, deep inspiration, or forced extension of the head. The tumor is resonant on percussion and causes modifications in the voice. The skin remains unaffected. Dr. Petit, contrary to previous writers on the subject, holds that certain forms of gaseous tumors may undergo spontaneous cure. He refers to the variety which appears suddenly at one effort and without any chronic disease of the respiratory tract or abscess in the surrounding parts. The other varieties remain stationary or slowly increase. Dr. Petit also holds that in some cases an operation similar to the radical cure of hernia might be attempted; but compression from without would be less hazardous. In other cases, when fits of suffocation occur frequently, tracheotomy is indicated under certain precautions.—*The British Medical Journal.*

A Case of Rupture of the Right Phrenic Nerve followed by Instantaneous Death.—The following case is reported in the *Indian Medical Gazette.* A porter, while carrying a bag, fell on his back with the bag on the front of his thorax. He was picked up immediately but was dead. Dr. Mackenzie who performed an autopsy states that the body was that of an adult native male of about forty years of age. It was well nourished and no external mark of violence could be detected on it. The lungs were found to be highly congested. The heart was healthy. The right cavities of the heart were full of dark fluid blood. The left cavities were empty. The liver, the spleen, the kidneys, and the vessels of the brain were congested. The stomach, the intestines, the bladder, the larynx and trachea, the œsophagus, and the substance of the brain were healthy. No bones were fractured. The only injury which could be detected was a rupture of the right phrenic nerve in front of the root of the right lung. He gave it as his opinion that the deceased died from the rupture of this nerve. During a nine years' medico-legal experience he has observed seven deaths from precisely similar accidents, in five of them the cause of death was ascertained to have resulted from fractures of one or more of the cervical vertebræ with injury of the spinal cord, and in two from shock following fractures of the sternum. He has not been able to find a case exactly similar to the one given above in any medical work. The only case he found regarding injuries to the phrenic nerve was in volume i., at page 605, of "Erichsen's Science and Art of Surgery" (seventh edition). It is as follows: "The division, however, of the respiratory nerves on the one side only, or even of one of them, would in all probability be fatal in man by interfering with the proper performance of the respiratory act. In a case with which I am acquainted, while the phrenic nerve was divided during ligature of the subclavian artery, death resulted in a few days from congestion of the lungs."

Venesection in Lead-poisoning.—Dr. Wilhelmi, of Güstrow, strongly recommends that in cases of lead-poisoning a small quantity of blood should be taken from the arm. He has practised this treatment in twenty-five cases, and speaks warmly of the success he has met with. the patients in some cases expressing themselves as greatly relieved immediately after the operation, and the affection taking a marked change for the better from that time.—*The Lancet.*

The Specialist and the Burglar: A Fable.—A burglar entered the office of a specialist, bent on plunder. The specialist saw him, walked him to a chair, sprayed him, prodded him, sprayed him some more, had ten dollars out of him, and commanded him to "call again to-morrow," before the burglar could formulate an excuse for his intrusion into the doctor's office. Moral: It is better to be a specialist than a burglar.

There is no Harmless Hypnotic.—Dr. Hutchinson says: "I have recently met with several cases of insomnia due to over-taxation of the American nervous system, and have been requested to prescribe some drug that would be effective to procure sleep, and be at the same time harmless. No such drug exists. There is no medicine capable of quieting to sleep voluntary life that has been working ten hours at high pressure, except it be more or less poisonous. Consumption of chloral, bromine in some form, or opium, has increased in this country to an incredible extent, is still growing, and a large number of Americans go to bed every night more or less under the influence of poison. Sleep thus obtained is not restful or restorative, and nature sternly exacts her penalties for violated law, more severely in these cases than in most others. Digestion suffers first; one is rarely hungry for breakfast, and loss of morning appetite is a certain sign of ill-health. Increasing nervousness follows, until days become burdens, and poisoned nights the only comfortable parts of life."—*American Magazine.*

The Gastritis of Phthisis.—Digestive derangements, such as anorexia, epigastric discomfort, and vomiting, not infrequently form some of the most troublesome symptoms with which the practical physician has to deal in cases of pulmonary phthisis. And while the clinical aspect of dyspepsia in phthisis has been the subject of more or less attention from Rosenthal, Klemperer, and others, the question from the stand-point of pathological anatomy has been somewhat neglected. The only monograph of importance that has appeared since the older writings of Louis, Wilson Fox, Fenwick, and others, is by Margan, in France, who has in many respects given an able account of the subject both from a clinical and from a pathological point of view. The most recent contribution is from the pen of Dr. Schwalbe, who, bearing in mind the importance of post-mortem changes, took the precaution to remove the stomach in his twenty-five cases very shortly after death (generally one to two, never more than five hours after). He was thus able not only to study more satisfactorily the naked-eye appearances, but also to enhance considerably the value of his histological investigations. In each case he examined the fresh tissue microscopically, and removed portions from different regions of the stomach for subsequent histological investigation. In only two cases did he meet with dilatation of the stomach, and he considers that ectasia ventriculi must be regarded as a rare complication of phthisis. As to the state of the mucous membrane itself, except that it occasionally looked slightly thickened and swollen, it presented, in the great majority of the cases, no morbid appearances worthy of note. The exceptions were one case in which amyloid infiltration was marked, and here the mucous membrane presented multiple but small erosions scattered over the surface. In another case it was decidedly opaque and mottled in yellowish patches; in a third, tubercular ulceration was found near the pylorus. In no case was a thinning or atrophy of it met with, and only rarely was it noticed coated with tenacious mucus indicative of a catarrhal condition. The results of histological examination showed that in five the organ was normal, in fifteen interstitial gastritis was found, but for the most part slight or moderate in degree; of the remaining five cases, amyloid changes were found in one, both in the mucosa and submucosa, and marked parenchymatous degeneration of the glands in four. The interstitial gastritis was invariably in the form of a small-celled infiltration of the intertubular stroma, and in no instance had it developed into fibrous tissue so as to cause atrophy of the mucosa. But in cases where it was more obvious, secondary changes in the tubules were also observed, namely, cystic dilatation and alterations in the epithelial cells. Schwalbe maintains that it is only in cases where the tubules have undergone alterations in position, form, and size, that any definite pathological significance can be attached to the accompanying cellular changes. The four instances where the parenchymatous were the only changes noted must be regarded as examples of simple parenchymatous gastritis (Virchow), with extensive fatty degeneration of the cells. He was not able to trace a metamorphosis of the two kinds of cells one into the other (for example, the principal into the parietal, and *vice versâ*); nor did he find a perceptible or constant diminution in the parietal or peptic cells, so that in this respect he does not confirm the results of other observers. Coming now to the important question, how far these structural changes are responsible for the functional disturbances, he differs materially from previous writers. He is of opinion that the interstitial gastritis which occurs in the later stages of phthisis is seldom of such extent or importance that any noteworthy impairment of function can be ascribed to it. It never reaches the intensity of that atrophic form in which nearly all secretory power is lost, as Fenwick, Ewald, Rosenheim and others have shown in idiopathic disease of the stomach. Even in the cases of simple parenchymatous gastritis it is doubtful whether the hydrochloric acid production is interfered with to any material degree, for in a case of acute yellow atrophy of the liver, where no diminution was noted. Rosenheim found extensive fatty degeneration of the tubular glands. He had seen both parenchymatous and interstitial inflammation in persons who never complained of dyspeptic symptoms, and, on the other hand, patients have complained severely of dyspeptic symptoms, in whose stomach there was little or no inflammatory change. Accordingly, he holds that it is not possible to establish any constant relation between the pathological conditions and the clinical signs. At the same time he does not state that such changes as he has described are entirely without effect, but believes other important factors must be taken into account to explain the dyspeptic symptoms of phthisis. These are anæmia, nervous depression, atony of the stomach, and vitiation of taste from constant expectoration of foul sputum. Regarding the etiology of the gastritis, Schwalbe believes it develops in the later stages of phthisis during the formation of vomicæ, and is to be attributed to the absorption of toxic substances resulting from the necrosing lung parenchyma, which enter the blood and set up a gastritis much in the same way as they may excite a nephritis. —*The British Medical Journal.*

Iodoform in Chronic Metritis.—Drs. Roux and Schnell, while admitting the value of curetting in certain cases of metritis, believe that a more simple treatment often yields good results. They recommend intra-uterine dressings of iodoform, and affirm that the treatment by iodoform has already given good results, both in obstetric and gynæcological practice. There are two ways in which iodoform may be employed—in pencils and in injections. The pencils are prepared by incorporating the iodoform with a mixture of gum arabic, gum tragacanth, and butter of cacao, or gelatine. For butter of cacao the proportion of iodoform should be one in seven; with gelatine two parts in eight. The crayons prepared with butter of cacao are hard and brittle; those made with gelatine are soft and elastic. They are introduced into the uterine cavity by means of polypus forceps, directed by two fingers of the left hand in the vagina. The injections may be made by forming an emulsion of iodoform with oil or glycerine and solution of gum tragacanth. This emulsion can be injected through a sound by means of a Pravaz syringe. All instruments should be disinfected by boiling them in water.—*Journal de Médecine de Paris.*

Rheumatism in Japan.—*Apropos* of the suspected influence of the climate of Japan in the causation of rheumatism and neuralgia in resident foreigners, it is interesting to note that horses imported into Japan from China and other countries are soon more or less disabled by rheumatism.—*Sei-I-Kwai Medical Journal.*

The Bones Library is a new industry in Chicago. Here is a description of the interior, furnished by a local paper: "The lower floor of the cottage, consisting of two large rooms and one small one, was completely filled with articulated skeletons and osseous human fragments of all descriptions. The skeletons were suspended in glass cases ranged along the walls and protected by a wooden railing about three feet high. A sort of wooden trough along the top was filled with skulls of all sizes, looking like a ball-roost in a bowling-alley. Long tables down the centre of the rooms were piled high with jaws, sternums, cervical, dorsal, and lumbar vertebræ, and other minor details. Collar-boxes, full of toe and finger joints and teeth, were stowed away on shelves under the tables, within easy reach. At the lowest calculation there was at least a car-load of bones in the two rooms. The ghastliness of the place was greatly relieved by some placards on the walls, bearing such cheerful inscriptions as 'Single Ribs, Fifteen Cents per week; with Vertebræ, Twenty Cents;' 'Positively no New Bones issued until Old Ones are Returned;' 'Double Charges will be Collected on All Bones kept over Specified Time;' 'Holders of Skeletons will be held Responsible,' and a host of similar announcements. Seated at a small desk in the midst of this chaotic resurrection was a plump, handsome little woman of twenty-five, nonchalantly picking her teeth with a bit of splintered rib, and wearing an air of happy self-possession that was absolutely refreshing."

Some Statistics on Revaccination.—Considering the vast importance of perfect immunity from small-pox, I herewith submit some statistics on the subject of revaccination, carefully collected by myself during some public work of this kind in the months of July and August of 1888. The importance of more or less frequent vaccination, regardless of previous ones, seems to be well pointed out, as these were done during an outbreak of small-pox and in people who thought themselves protected, and submitted to it in most cases under protest. It is true all my cases were negroes, and knowing their susceptibility to small-pox, and probably to vaccinia also, the figures may seem too high to apply to the white race, but their importance is indisputable. All of them had been vaccinated five years before during an epidemic, and had large scars, many of which I thought to be simply from septic matter having been introduced at the time of operation, or from the same subsequently introduced by scratching or otherwise. Some, about half, had typical marks, and it was among these most of the failures occurred. I submit the following figures: Total number of revaccinations, 240; failures, 120; successes, 83; unknown as to result, 37. Thus we see out of 203 cases in which the result is known, there are 83 successes as regards 'taking,' or 40.8 per cent. I add a few remarks, which can never be too often impressed on the mind of the vaccinator. I found many large, smooth cicatrices, some the size of a silver dollar, bearing no, or but little, resemblance to the true scar of vaccinia; these cases were almost invariably successful, and, as stated above, were, I believe, either from septic matter introduced as virus or from dirty instruments, or more probably from failure to wash and cleanse the arm of the subject before operating. If the latter precaution was strictly followed, the instrument cleansed before and after each operation, and pure, unspoiled lymph used, the arm being protected from dirt until the drop of blood and virus dries over the insignificant lesion produced, I believe the ancient prejudices, often founded on the fact of a very much inflamed or an erysipelatous arm, would soon die out. None of these cases were inflamed beyond that natural to the vaccinia, except in two or three, and these were directly traceable to infection from dirty finger-nails. No account was taken of ages, but they ran all the way from the "cradle to the grave." Let me add my protest against the small price paid per capita for such practice, which must necessitate rapidity, and consequently carelessness of work, while it often prevents competent physicians engaging in it at all; and also against the filthy manner in which it is then usually done, the operator scratching through a layer of dirt, often perceptible to the naked eye.—D. G. Winston, M.D., Glasgow, Ky.

Masturbating Sodomy.—Dr. J. Frank Walker, of Florida, Ala., writes: "On December 17, 1889, I was called to the office of Dr. P. I. Price, of this city, and consulted about the removal of a foreign body from the lower bowel of his patient. Introducing my arm half-way to the elbow, I felt with my hand a large oval object, and succeeded in bringing it down within a few inches of the sphincter ani. After many futile attempts with my hands and various instruments (knives, blunt hooks, etc.), I finally succeeded in locking a small pair of obstetrical forceps around, and extracted a turnip, measuring nine and one-half inches in circumference and eight and three-fourths inches around top and base. Thinking it singular that such an object should be found in this situation, we obtruded ourselves into our patient's confidence and gained in substance the following: Aged thirty-three; when a boy, patient began introducing partly into rectum apples, turnips, and other round or oval objects. This practice gave him a peculiar pleasure, such as sodomists experience, I suppose. Eleven years ago (at age of twenty-two) he married, and for five years left off the vice to some extent only to return to it again. On December 16th, while handling a turnip of unusually large size, it slipped his grasp and was carried by the contractions of his sphincter out of his reach. He had walked ten miles for surgical assistance when seen, and was suffering intense agony from the swelling, inflammation, etc. Even this experience would not induce him to promise to leave off this the most disgusting of vices, masturbating sodomy."

Some Curious Events, partly Medical.—The *Western Medical Reporter* is responsible for the three items which follow: Sam Hornsley and Sylvia Cody, both colored, the former aged seventy-five years and the latter seventy, were married recently in Hephzibah, Ga., by O. G. Tarver, at the store of E. J. Tarver. John McClellan, of Jeffersonville, Ind., was bitten by a mosquito, Sunday. Wednesday he was seized with convulsions, his right side became paralyzed, and he was not expected to live. Mrs. Hiram Sneal, of Malad, Idaho, one day last week gave birth to six children, three boys and three girls, weighing eight pounds altogether. If this Malad-y should become contagious Idaho will soon be entitled to admission as a State.

Medical Students in France.—According to the statistics of the French Department of Public Instruction, recently published, the number of students of medicine has nearly doubled in the last ten years. In 1878 there were only about three thousand students, whereas in 1888 the number inscribed was between six and seven thousand. It is a curious fact, however, that there has been but a very slight increase in the number of graduates during the past twenty or more years. In 1866 the number receiving the degree of doctor was 520, ten years later it was 610, and only once since that time have the figures been above that, but several times have been below. The number of officiers de santé (a minor grade of medical practitioners) fell off from 200 in 1878 to 80 in 1888.

Labels for Poisons.—A bill is about to be introduced in the Legislature by Assemblyman Usher, compelling druggists to have printed on the labels of bottles containing poison, the proper antidote.

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THE ANATOMY OF THE THORAX AND LUNGS IN RELATION TO CERTAIN POINTS IN PHYSICAL DIAGNOSIS.[1]

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ALTHOUGH so much has been said and written about physical signs and their causes, great difference of opinion exists in regard to the subject. If ever it be possible to establish physical diagnosis upon a rational basis, this basis must rest upon anatomical study. Both the anatomist and physiologist usually look upon the thorax and lungs from a point of view so different from that of the physical diagnostician, that their studies are of little value to him. The first is apt to be too much interested in details of structure, the second in questions of function. The physical diagnostician, must regard the anatomy and physiology of the chest as he would the component parts and action of a piece of machinery, any disarrangement of which can be appreciated by the senses. As most of the derangements are appreciated by the ear, the acoustical properties of the thorax are of much importance.

In this paper I regard the thorax and lungs purely from this mechanical stand-point. I venture to bring forward the subject not so much that what I have to say is new, but because I believe it to be true. Every sign mentioned has been observed by myself, and the anatomical statements are based upon dissections, corrosion preparations, or sections made by me. I do not know that any observation is original; I know that many are not. I have tried to study objectively—to see what *is*, not what has been said to be. How far I have succeeded I do not know. I hope that, at least, I may present some of it in a new light. This is my only excuse for writing.

Much of the confusion regarding physical signs has been caused by the use of incorrect diagrams. The usual diagram of the air-vesicle and terminal bronchus, for instance, is preposterous. The average diagrams representing pleural effusions are absurdly incorrect. Both have had their influence in producing false ideas of physical diagnosis, since they give false impressions of the mode of production of physical signs. This is no theoretical matter. A man who does not have a clear idea of physical conditions cannot progress in the study of physical signs. He who thinks that bronchial breathing necessarily indicates consolidated or compressed lung, or cavernous breathing a cavity, as many diagrams would tend to show, is not a trustworthy interpreter of pulmonary signs. The same is true, in lesser degree, of one who supposes that the level of pleural effusions is always horizontal when the patient stands, or that it usually shifts when the patient lies down, or that absence of evidences of change of level with the patient's change of position indicates pleural adhesions, or that the lung is under active pressure from fluid save when the quantity is very great, or, finally, that the lung is compressed or contracts directly and symmetrically toward its root when fluid is present.

The air-vesicles do not in the least resemble the usual diagrams. Active pressure upon the elastic lung, until fluid is very abundant, is, as Garland has shown, impossible. The same author has demonstrated why the fluid-level does not always change with change of posture.

[1] Read before the Practitioners' Society, January 3, 1890.

That the lung cannot contract toward its root is evident when one looks at the *ligamentum latum*. Yet all the ideas mentioned are common.

The Air-vesicles.—In regard to the anatomy of the lungs, for the present purpose we are mainly concerned with the bronchial and vesicular portions. The former is better understood than the latter. The description which follows is the result of much study of corrosion preparations. It corresponds with that of Delafield, in his "Studies in Pathological Anatomy." This description (of Delafield's) has been generally discredited. Among others who doubted its accuracy was the writer of this paper. A good deal of work has convinced me that Delafield's view is correct. It may be said that there are two different ideas in vogue regarding the anatomy of the pulmonary lobule; some regard the air-vesicles as attached to the terminal bronchi like a raspberry with its interior hollow. Hence many time-honored diagrams representing fine *râles*. Others give a more elaborate description of infundibula, etc. When one looks at perfectly injected corrosion specimens, the berry form suggests itself. When the injection is less perfect, the other view seems correct. When, however, one takes a perfectly injected cast of ultimate bronchus and air-vesicles (which looks like a berry), and breaks it up (observing it with a low-power lens), it becomes evident that the interior of the berry is made up of spheroidal bodies which are attached to one another at two or more points. These are the true air-vesicles, and the important point for us in Delafield's account is that these vesicles communicate freely with one another. This they do, since it is possible to break off a number together, and then, by further breaking, to show that there are many which present corresponding rough surfaces at the line of fracture. Delafield further points out that the bronchi enter the lobules in an irregular manner, sometimes from the side, sometimes from the distant end, etc. It is perfectly easy to reconcile the two other descriptions if this view be adopted. Kölliker, Klein, and others describe imperfec injections. Those who are responsible for the usual diagrams, probably studied well-injected specimens imperfectly broken up, and also sections of lungs which seem to bear them out. Delafield describes "air-passages" which, he says, "seem to be made up of a succession of large vesicles opening into each other, or of an irregular, larger canal, made up of vesicles into which other vesicles open from all sides. These air-passages branch and anastomose. . . . They are given off from the ends of terminal bronchioles, or from the sides of small bronchi" ("Studies in Pathological Anatomy," vol. i., p. 102). In Delafield's "air-passages" we have "the infundibula," the "respiratory bronchioles," and the terminal bronchi with vesicles opening into them. The main fact which Delafield demonstrates is the communication between air-passages.[1]

The Bronchi and Blood-vessels.—The bronchi divide and subdivide, until finally the ultimate bronchioles terminate in the branching and freely communicating air-passages and vesicles. This arrangement exposes a very large surface to the air in the lobules; it also makes room

[1] The question whether or no the true respiratory portion of the lung is made up of anastomosing passages, was long a matter of dispute. The view that there is no such anastomosis is generally accepted. Thomas Williams, in the Encyclopædia of Anatomy and Physiology, London, 1859, article, Respiratory Organs, Anatomy of, p. 264 et seq., gives an excellent résumé of the earlier views about this. He also describes and figures anastomosing passages

for much elastic tissue, and it must cause a very great amount of motion in the air within the lobules and bronchioles with the respiratory movements. It is interesting to note that the bulk of the air-vesicles is always greatest where the chest motion is greatest, and that, as I demonstrated in this Society at a previous meeting, the bronchi and arteries run in such a direction that they tend only to lengthen and shorten in respiration.

The veins pursue a different course from the arteries. They lie as far as possible from the bronchi, while the arteries accompany these tubes. Their course also is more tortuous. They are surrounded by elastic pulmonary tissue, attached loosely to their walls. The mechanical advantage of this arrangement has not, I think, been pointed out. It is evident that the veins are so placed as to tend to be held open during inspiration and expiration, by the tendency of the elastic tissue to contract toward the bronchi. They are so placed as to be practically uncompressed by the atmosphere. In fact, they may be said to run always through those parts of the chest in which there is a nearly perfect balance between the contractile power of the lung and the atmospheric pressure.

Ewart, in his remarkable monograph, "The Bronchi and Pulmonary Blood-vessels," describes the course of the veins with the same exactness and detail which characterize the rest of his work. He views the veins, however, as parts of the pulmonary framework. In this he is, I think, only partly correct. He is right, as far as he goes, in looking upon the veins as part of the pleural and pulmonary connective-tissue system; but the vein only lies in, and does not form a part of, the sustentacular system, running in the latter because it is necessarily best placed, as far as possible from the centres of expansion and contraction of the lung. I cannot speak too highly of this work of Ewart. It fills a practically unexplored field of pulmonary anatomy with a thoroughness which leaves nothing to be desired. It has vastly simplified my own work, and rendered the publication of much of it needless. To it I am indebted for the first correct idea of the pulmonary vein. My view of the subject is purely mechanical, and Ewart's anatomical, hence we interpret differently.

The Attachments of the Lungs. — The structures forming the roots of the lungs are not so much concerned in holding the organs in place as is usually assumed. Far more important are the pleural folds known as the *ligamenta lata*. These broad ligaments are arranged in such a way as to fasten the lungs, for a considerable part of their inner surfaces, firmly to the vertebral column, pericardium, and diaphragm. Their folds are so separated above as to leave free room for the bronchi, vessels, etc., and so protect them entirely from injury or pressure during respiration. Except these broad ligaments, the rest of the pleuræ of the lung and thorax are interesting for our purposes in so far as they glide over one another.

The Thorax and its Contents.—The thorax is an expansible cavity, partly enclosed by rather rigid walls, composed of bone, connective tissue, and muscles, partly by the very elastic diaphragm. The cavity is divided into two compartments for the lungs by the mediastina and the pericardium contents. These structures make a fairly rigid column, attached above to the deep neck fascia, below to the diaphragm. The central parts of the latter are thus held nearly motionless at all times.

The chest moves in respiration in such a way as to enlarge or diminish every diameter (roughly speaking) in proportion to the bulk of lung-tissue lying between every part of each half of its surface and the main bronchus of the corresponding lung. The movements of the thorax cause not only expansion of the lungs, but also gliding of the pulmonary over the parietal pleura.

Every structure within the thorax, save the lungs, is subjected to a varying negative pressure by the elasticity of these organs. During inspiration this pressure is of course most marked. It is this which causes the diaphragm to arch up and the intercostal spaces to curve inward. It is this which determines the position and shape of fluid masses in the pleural cavities, and the displacements of viscera in pneumo-thorax.

Fluid in the Pleural Cavities, as is beautifully demonstrated by Garland in his paper on "Pneumono-dynamics," does not assume a "hydrostatic," but a "hydrodynamic," level. That is: because of the negative pressure of the lungs, the surface of the fluid is made to take a peculiar shape. It is not level, as it would be under the influence of gravity alone, but is drawn up so as to apply itself to the surface of the contracting lung. The line of flatness at the fluid-level is not straight, but curved. Moreover, the same negative pressure may prevent any great change in the fluid-level with change of posture. Garland illustrates these facts by means of simple and ingenious apparatus. He also calls attention to the fact that active compression by fluid of an elastic body like the lung is impossible, until the elasticity of that body is overcome. The fluid allows the lung to contract, does not press upon it until the chest is very full and the contractile power of the lung exhausted. Of course, as far as the effect upon the blood circulation and air movement within the lung is concerned, it does not make any difference whether the elastic tissue contracts, or the fluid compresses it; but it is very important to remember that, until this negative pressure ceases, the intercostal spaces will continue to be depressed, and the abdominal viscera will not be much displaced. Not so with the heart, since the elasticity of the lung on the sound side produces a negative pressure which causes its displacement toward that side when fluid is present in too small quantity to do so.[1]

All this is so obvious, when once stated, that it is needless to discuss it. The position assumed by the lung when actively compressed by fluid, or when pneumothorax allows it to contract, is usually entirely wrongly shown in diagrams, and is misunderstood by many writers. It is a common idea that the lung under these circumstances contracts toward its bronchus. This is not so. Held by the broad ligament, it contracts so that (unless there are old, firm adhesions) it lies along the spinal column in the vertebral groove. That this is the case can sometimes be demonstrated during life by pretty hard percussion, which will show dulness near the spinal column from about the spine of the scapula to the bottom of the chest, while flatness will be found everywhere else in cases where there is a great amount of fluid. In some cases in the same region the subcrepitant râle is heard. Post mortem the lung is usually found in this situation if the contraction or compression is sufficiently marked. If not, the position of the lung is partly determined by its elasticity, partly by its attachments, and partly by its power of floating because of the air contained in it. These various factors modify the physical signs.

Physical Signs.—I shall speak only of a few physical signs, and the probable mode of their production, since this paper is already very long. It is necessary to define some terms for the sake of clearness. On percussion, we find over different parts of the normal chest and abdomen, in different cases, pulmonary, tympanitic, or vesicular resonance, with certain modifications thereof, as tubular resonance, flatness, bony resonance, the cracked-pot sound, and certain combinations or modifications of the above, as vesiculo-tympanitic resonance, and dulness. Pulmonary and tympanitic resonance, with their modifications, and in the cracked-pot sound, flatness, and bony resonance, have each one distinguishing feature, namely, quality.

Dulness has none. It is merely some type of resonance modified more or less, usually by an increase of the flat tone which is always audible to trained ears in any

[1] Although Garland's demonstrations and explanations of the behavior of fluid in the pleural cavities are excellent, it must be remembered that a human lung differs in its attachments from a dog's, and the lung, therefore, must contract in a somewhat different manner.

percussion-note. No absolutely pure percussion-note save flatness exists. By flatness is meant what is sometimes called "absolute dulness," namely, the note obtained on percussion over the thick muscles of the thigh, or over a large fluid accumulation in the chest or abdomen, etc. This note is high-pitched, short, and of little intensity, and of a quality called flat. It is impossible to describe sound quality. When anyone can describe the taste of potatoes, possibly he can describe the quality of a sound. Neither of these things has yet been successfully reduced to writing. I believe, as has been said, a flat, short, high-pitched tone always accompanies any other type of percussion-sound. It is produced by the pleximeter and the solid tissues which cover the organs producing the more pronounced sound. Dulness is produced when this flat note becomes more, while the pulmonary or other note becomes less, intense. It is difficult to distinguish, in all cases, a rise in pitch from a change in quality. Where the lungs, for example, cover with a thin wedge-shaped edge the liver, the pulmonary note certainly rises in pitch. It is also duller, and to the writer this dulness seems due to a change in quality produced by diminished pulmonary, and increased flat, tone.

Flatness is a tone possessing an absolute quality, but not an absolute pitch. In pulmonary and tympanitic or any other resonance the quality is not pure.

In percussion it is well known that the direction of the blow changes greatly the resulting note. It is not, however, usually appreciated how great a range of notes may thus be obtained. In the intra-clavicular region of healthy adults the writer has frequently obtained notes running through one-fifth and even one-sixth of a musical scale, simply by directing the blow toward the trachea, then gradually more and more backward, then toward the external wall of the chest; the pleximeter always being held in the same position.[1]

Pulmonary or vesicular resonance is heard over a large part of the normal thorax. It is a tone whose predominating quality is produced by the cavity of the chest with the contained sponge-like lung. It is produced neither by the air-filled lung alone nor by chest cavity alone. The former produces a much lower-pitched and feebler, the latter an amphoric or tympanitic, note. The spongy lung dampens the thoracic tone, and the thoracic cavity, with, to a certain extent, its walls, resound with the lung, and together they produce what we call pulmonary resonance. The pitch of this resonance varies with the elasticity of the chest-wall and with the size of the thoracic cavity. A large chest usually gives a deep tone. A smaller, elastic one does the same. The note of a large chest is, I think, of greater volume or intensity than that of a smaller, elastic one.

Bony resonance is heard over the sternum, and in some cases, especially in old people, over a large part of the chest. It is interesting to note, in connection with the statement that dulness is usually a mixed tone, that the heart produces on gentle percussion a dull note where it lies under the sternum, but on stronger percussion, when the force of the blow causes the whole bone to resound, it obscures the flat heart-sound.

Tympanitic resonance is produced by hollow viscera, by consolidated and compressed (or contracted) lung, and by cavities in the lung.[2]

In all cases save those in which this note is heard over solidified, contracted, or compressed lung, its mode of production is sufficiently clear. In the latter cases, so far as I know, the quality and pitch of tone is always the same as that produced by percussing the trachea, if the upper part of the chest gives it out; if the lower, either this note or that of the abdominal viscera. It has been suggested that the contracted lung over fluid is in a physical state resembling hollow viscera, and produces a note more by the vibration of its contained air than the mixed tone of its air and its stretched pulmonary connective tissue, etc. Possibly this is so. As far as I have observed, however, it has seemed to me that the note is identical with that of the trachea and large bronchi, or abdominal viscera. In children, the relatively large size of the bronchi and trachea compared to the vesicular part of the lung, together with the very elastic chest-walls, makes the occurrence of this note, under the conditions we are considering, very common.

The cracked-pot sound is heard frequently beneath the clavicles of healthy children, as well as over cavities, consolidated and compressed or contracted lung, and in pneumothorax. The fact that it is heard so often over normal lungs in the infra-clavicular region in children throws, I think, much light upon the mode of its production. The walls of children's chests are elastic, the bronchi and trachea relatively of large size. The sound is best heard when, the mouth being opened, a rather heavy blow is struck, the plexor being allowed to remain upon the pleximeter. This annuls, as far as may be, all thoracic vibration. The blow is really a pushing one, which is calculated to compress the lung and drive a good deal of air into and through the large tubes, larynx, and mouth; this causes the sound. It may be fairly imitated if, when a patient whispers, the chest be suddenly squeezed just as a word is being uttered, both hands of the observer having been placed over the lower ribs. In the case of consolidated lung, or lung over fluid, is it not probable that precisely the proper degree of elasticity may, in some cases, obtain to admit of drawing air out in a similar way? In pneumothorax also, with free opening into a large bronchus, and in some cases of cavity, this explanation seems reasonable.

Precautions to be Observed in Percussion.—Probably many good auscultators exist for one good percussor. The note obtained in percussion is often very complex and difficult of analysis, the more difficult being of short duration. Pitch and quality are hard to separate. Moreover, percussion is usually badly taught by instructors. Not to weary you with the well-known advice regarding the mode of striking, etc., and the necessity of striking a quick blow, I wish to call attention once more to the great need of comparing the results of lighter and heavier blows, and also of examining the patient standing, and with the body naked when possible. I wish also to emphasize the value of the much-neglected study of the sensation conveyed to the finger used as the pleximeter. By this finger the sensation of resistance will often give a better idea of the level of fluid than the ear. In children's chests the sensation is of especial value, since their elastic chests often give notes from both sides. It is, moreover, remarkable what slight differences of pitch and quality may thus be appreciated.

Auscultatory Signs.—*Bronchial Breathing.* There is no doubt that this sound is produced by the air-currents in the larger bronchi and trachea, and possibly the larynx, nose, and mouth. It is heard normally over the trachea, the sternal notch, and upper part of sternum, and sometimes in the vertebral region near the scapular spines. It is also usually heard over consolidated and compressed or contracted lungs (especially, in the latter case, at or near the level of fluid, and sometimes below this level), over cavities, and over tumors (including aneurism) pressing upon the larger bronchi.

Its characters need no description, but, for reasons which will appear later, I wish to remind you that in it there is a pause between inspiration and expiration, and that expiration is prolonged and higher-pitched than inspiration. In cases of consolidation (as pneumonia), it seems probable that the solidified lung conveys sound better than the normal lung, and therefore is much like a stethoscope applied directly to a bronchus. The usual propagation of this sound at or near the level of fluid is

[1] Whether the alteration of quality from tubular to dull pulmonary corresponds to the pitch change or not, I cannot say.

[2] In one case, in a baby, I heard it over the whole left chest, which was distended with pus; and though the note sounded tympanitic, to the finger, used as a pleximeter, it felt flat. In this case the whole right chest gave out a very similar note.

explained, partly by the fact that here we have practically solid lung, and partly, probably, by the reflexion of the sound from the fluid. The absence of all sounds in most cases below the fluid-level is probably due to the fact that, though sound travels well through liquids like water or serum, or through solid tissues like compressed or solidified lung, it does not readily pass from solid to fluid media, or *vice versa*. Thick masses of fluid, therefore, usually prevent its transmission from the lung, while the contracted lung, at and near the fluid-level, forms a good sound-carrier.

It remains to speak of two conditions: where there is absent breathing over solidified lung, and where there is bronchial breathing below the level of fluid.

Absence of breathing over solidified lung may be found where the whole or a part of a lung is involved. In the former case it is possible that practically no air enters or leaves the larger tubes. In the latter, possibly a plugged bronchus may account for the phenomenon; possibly at times the consolidation is of such character as to transmit sound badly, resembling more or less in physical characters œdematous exudate. Possibly in some cases the diminished movement of the affected chest may explain it.

Bronchial breathing is often heard below the fluid-level in adults with a very full chest, and in children. In the latter the relatively large size of the bronchi seems to explain the fact. In the former, with over-full chests, the fluid and compressed lung together are practically like consolidated lungs, forming a good medium for sound transmission. The fluid pressing upon the lung-tissue is like the stethoscope pressing upon the chest-wall. The bronchial sounds go through it in the same way. Vocal resonance is carried in a similar manner, but vocal fremitus with its larger waves is checked by the fluid (probably because of the inertia of the latter).

The vesicular murmur, or normal pulmonary respiration, has been the subject of much dispute. As this paper is already too long, I shall only speak of a few points in regard to it. First, unlike bronchial breathing, its expiratory sound is lower pitched than the inspiratory, and there is scarcely any pause between the two. Second, both in pitch and quantity, both sounds differ from the bronchial type. Third, it is absent when from any reason air does not move in the vesicles, and the latter, therefore, do not dilate or contract. Finally, the murmur is no more distinct in places where there is most movement of the pulmonary over the costal pleura (*i.e.*, over the anterior lower parts of the chest). The sound can, therefore, not be due to pleural movements.

Now, this murmur might conceivably be the bronchial note modified in its transmission through the lung tissue; but if so, the modification is certainly peculiar, since it fills in the pause between two sounds, lowers the pitch of one relatively to the other, alters the absolute pitch of both, and utterly changes the quality of both. Moreover, if the sound be simply transmitted and altered, the plugging of a bronchus or other obstruction to vesicular movement should not abolish it. Recent experiments (which are rather crude), made upon lungs removed from the body, show that this murmur may be heard when all bronchial sounds are annulled, by introducing a loose cotton plug into the trachea.

The vesicular murmur must be produced in the lobules of the lung. The air-currents and the elastic tissue of the lung, or both, may cause it. That much motion of the air in the lobules, and therefore of the walls of the vesicles, occurs, cannot be doubted, if one considers the relative bulk of the vesicles to the bronchi, the position and direction of the latter, and the thoracic movements. The air rushes through narrow tubes into and from much larger passages. In so doing one would expect it to cause a sound. The expanding and contracting vesicular walls also, like any elastic substance alternately made more or less tense, must do the same. One or both of these must be the cause.

BLINDNESS FROM BABIES' SORE EYES.[1]

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THERE is a pretty general consensus of opinion, I take it, among the most advanced thinkers of the medical profession and of the public in general, that the chief office and crowning glory of medical science is, not so much the cure of disease already established, as its prevention. Someone of those born with a genius for figures and a tendency to run into calculation, has estimated how many years have been added to the average length of human life, within the last fifty years, by the discoveries in scientific medicine during that period. I don't now remember how many these years are, but it is a number quite large enough to be highly gratifying to the pride and humanitarian instincts of those engaged in the philanthropic work. There have also been some statistics set forth, I believe, by our gynecological brethren, showing how many years have been added to the average life of woman by the improvements in the operation of ovariotomy alone; and some very interesting and satisfactory statistics could undoubtedly be compiled, showing how many years of usefulness and comfort have been added to human life by the single operation of cataract extraction. But if the prevention and cure of disease in adults who have already performed a part of the allotted labors of life, and who would, as a rule, die and cease to be a burden to the community and themselves after, at most, a few months of illness, is a matter of great moment, and is to be considered the highest aim of the science to which we have devoted the best energies of our lives, of how much more importance is the endeavor to prevent those diseases of infancy which are not fatal, but which leave the subject of them helpless charges upon society, and with the terrible consciousness of lives blighted and bereft of that which makes them most endurable.

It is to one such affection that I wish to direct your earnest attention this evening. It is one in the consideration of which the ophthalmic surgeon and general practitioner can meet on common ground—or rather, one in which, in point of importance and responsibility, the ophthalmic is found to come last, and alas! too often, too late. I allude to the sore eyes of babies—*ophthalmia neonatorum*.

It is, of course, known to each of you, either from the experience of his own practice, or, more fortunately for him, from the practice of his neighbors, that ophthalmic neonatorum is sometimes followed by a destruction of one, or generally both eyes—a total loss of vision. But few of you are perhaps aware of the total number of eyes that are thus lost, from the fact that your observations are limited to your own fields of labor and those of neighboring practitioners. One or two, or at most probably half a dozen, cases of blindness from neglected ophthalmia neonatorum are probably as many as any general practitioner can call to mind; and there are physicians long in active practice who have informed me that they have never seen a single instance of the disease in many hundred deliveries. This has created an indifference to the whole subject, and a lassitude in taking hold of it, which is one of the greatest, if not the greatest, obstacle in the way of instituting proper measures for the prevention of the disease. We are apt to forget, in the self-satisfaction and security, born more largely of good fortune than of wisdom or skill, that eternal vigilance is the price we must pay not for political liberty alone, but for freedom from some of the direst calamities of life. It is not my wish to indulge in upbraidings, but I do wish to use as forcible language as I can command to insist upon the duty of the obstetrician in the premises, and to lay upon him the burden of the responsibility for the blasted lives of thousands of human beings, who are to-day groping their way through

[1] A paper read before the Medical Society of the District of Columbia, December 5, 1889.

the world shut out forever from the beneficent light of heaven. This may seem a strong indictment, but it is unfortunately one which can be proven true by facts and figures which are open to the investigation of all.

I shall not burden your attention or tax your memory with long tables of statistics which have been prepared, at much pains and with great accuracy, by a number of men in different parts of the world. The principal facts are set forth in the works of Fuchs, Magnus, Howe, and the Committee of the Ophthalmological Society of the United Kingdom, and to them I would refer those desiring to investigate into the truth of the statements made in this paper.

These statistics show that at least thirty per cent. of all the blindness in Europe and this country is caused by ophthalmia neonatorum. Bringing the matter, now, more directly home to ourselves, we find that the census of 1880 gave as the total number of blind in the United States as nearly fifty thousand. Of these there are, at least, fifteen thousand who have been blind from birth, and have been a constant care and expense. Many of them, it is true, are still in infancy and at an age when they would, under ordinary conditions of good vision, still be a charge to society; and there are a very few blind people who are in some way or other self-supporting. But as even more than an offset to these are those whose vision, while not lost, has been seriously impaired, and who are thereby greatly handicapped in the work of their lives, that have not been reported in the census under the heading "blind." Only those who are totally blind are enumerated in the census reports; even very serious defects of the senses are, I believe, not taken account of. It is then, I think, safe to say that there are fifteen thousand people in this country who are a charge upon the community as a result of blindness from ophthalmia neonatorum. Laying aside, for the moment, all considerations of humanity and sentiment, let us see what that means from a politico-economical point of view.

The minimum cost of sustenance of a single person in our best and most economically managed public institutions for the blind is about $132 a year. This makes, for the mere "keep" of these blind people, nearly $2,000,000 annually. But if these fifteen thousand people had not been blind, they would have been producers instead of consumers only, and their net contribution to the general fund can be taken as, at the least, one dollar a day, on an average. Adding this amount to the cost of their maintenance, we find that the total loss to the wealth of the United States each year is about $7,500,000. And this enormous loss to the commonwealth, gentlemen, is due to the ravages of a disease which is as surely preventable as small-pox! It is doubtful if all the epidemics of yellow fever and cholera in this country, for the last one hundred years, have cost the country as much in money as have the ravages of ophthalmia neonatorum in ten years. And yet the latter is a disease which is, in its incipiency, easily curable, and well-nigh absolutely preventable.

That the latter statement is not a chimerical fancy nor an optimistic exaggeration, is readily seen by a reference to the reports of the large lying-in hospitals, where the most methods of prevention have been in operation. Take, for example, the reports of the hospital at Leipsic, under the direction of Professor Credé, who was the first to use and bring permanently forward the method now well known by his name. In the years before his preventive measures were used blennorrhœa of the conjunctiva occurred in from seven to thirteen per cent. of all the children born in the hospital. After the method was put in operation there was practically an entire disappearance of the disease, only an occasional case showing itself as the result of some neglect on the part of an attendant. Reports from other hospitals in Berlin, Bonn, Dresden, Geissen, Marburg, and other cities, bear equally good testimony to the system, none of them reporting more than 0.5 per cent. of cases.

To many of you the plan of Credé is well known, but for the information of those who are not familiar with it, I will briefly state the principles of the method. Immediately after the umbilical cord is tied, the face and eyelids are wiped clean and dry. The lids are then opened, and a drop of a two per cent. solution of nitrate of silver is dropped in from a glass rod or by other proper means. The one application suffices, if properly made. This has been considered by some as needlessly heroic, and it is probably that in the large majority of cases a solution of even 0.5 per cent., or the use of another and milder antiseptic, or even proper cleansing with water, would prevent the outbreak of the disease; but for a sure and certain prophylaxis a two per cent. is needed. If the infecting bacteria have already invaded the conjunctiva and found a nidus, as is their habit, in the epithelium of the mucous membrane, an agent sufficiently strong to destroy the superficial layers of cells, and cause them to be thrown off, is essential to perfect safety. It has been found that, except in premature children, the reaction from this treatment is very slight, and no really evil results have as yet, I believe, been reported.

Hausmann's method of a thorough cleansing of the maternal passages with antiseptics, before and during delivery, is of course useful, but it cannot take the place of the prophylactic measures applied to the organ likely to be affected, or perhaps already holding the germs of the disease.

It being thus clearly demonstrated that there is what is practically a complete prophylaxis against a disease which adds at least thirty per cent. to the total number of our blind, it follows that, if the measures were rigidly enforced, this percentage of blindness would disappear, with its attendant misery and large expense to the community.

As a matter of fact, however, the advantages to be derived from these prophylactic measures are at present confined almost wholly to large lying-in hospitals, and the helpless infants whose fortune or misfortune it is to be born outside of these institutions have to take their chances, with little or no favor shown them on the part of the accoucheur. In practice among the better class of society, where cleanliness on the part of the mother is a matter of habit, of course the results from neglect of the preventive measures are not so marked; but even here the feeling of security on the part of the practitioner is perhaps as dangerous an element as the wilful negligence of it among the lower classes, where cleanliness is not the rule; for it is hardly necessary for me to state here that ophthalmia neonatorum is to be found where there can be no suspicion of gonorrhœa of the vagina. The greatest danger, of course, is to be feared in those cases of labor which have been attended by incompetent midwives, and by general practitioners who have, perhaps, never been made aware of their responsibility in such cases.

I find, on examination of the records of my clinic at the Central Dispensary, that serious defects in vision from ophthalmia neonatorum form about 1.5 per cent. of all the eye diseases treated, and in more than one-half of this number the blindness is practically absolute from sloughing of the cornea. In a single month there were brought to me three infants with total sloughing of both corneæ, from neglected purulent inflammation of the conjunctiva. And if you could have seen the look of anguish and reproach in the eyes of these mothers—two of them hardly more than children themselves—when told that their babies could never see again, the prophylaxis of ophthalmia neonatorum would not then have seemed to you a slight or trivial affair. "Nobody told me it was dangerous," they said. "They said it was only a cold in the eyes, and that if I put breast milk in them they would be all right."

If such cases came only from those delivered by ignorant midwives, we would have less to reflect upon ourselves as teachers and writers, but that consolation, I am sorry to say, is not allowed us. One-half or more of the

cases were attended by physicians who are licentiates of this Society. I am not aware to what extent the teachers of obstetrics, in our schools throughout the country, dwell upon the importance and necessity of the preventive and early and proper treatment of this affection, but I have had an examination made into the text-books on midwifery, from some of which the American student is expected to obtain the knowledge requisite for the proper care of the lying-in chamber. Dr. Gill, resident of the Emergency Hospital, who was kind enough to make this research for me, found that in more than thirty standard works on obstetrics in English, in the Library of the Army Medical Museum, there were only four which considered the preventive measures of which we have spoken. These were the "Encyclopædia of Obstetrics and Gynecology," and the treatises of Barnes, Lusk, and Cazeaux and Tarnier. In only six others, and they were mostly old works, was there any consideration given to the treatment of the disease when it had been once established. It may possibly be said that the affection falls more properly under the head of pædiatrics, and that we should look for an account of the disease and its treatment in the works on diseases of children. Even if that were true as regards the disease already in action, it does not absolve the obstetrical writer and teacher from his duty in regard to prevention; and, besides, the care of the child for the first few days after birth, and during the period when the disease is likely to be set up, belongs to the obstetrician as pertinently as does that of the mother herself.

It is obvious, then, that our first duty is to arouse our teachers and writers on obstetrics to the necessity of instructing their pupils as to the proper care of the eyes of the child from the very instant of its birth. If they are not willing to adopt what they may consider the heroic method of Credé, let them at least be instructed to wash the eyes with some antiseptic solution, and examine into their condition at each visit for at least a week. This would, at any rate, keep the attention directed to the eyes, and allow for the discovery of the first manifestation of the disease, and in time—and at the only time—for its most successful treatment. This is the very least the most timid should be expected to do. The thoroughly conscientious man would, of course, adopt the sure method of Credé at once.

But there yet remains a large percentage of cases not attended by physicians of any kind, and among a class of people where the conditions for the development of the disease are most favorable.

These people cannot be reached through our teachers or our text-books, and yet it is highly important that in some way they should be informed of their danger. Various methods of accomplishing this have been suggested.

The Ophthalmological Society of the United Kingdom took the matter in hand, and in 1884 its committee, composed of the leading men in the Society, made a report of a series of resolutions which I here copy, as embodying a method some modification of which I deem adapted to the necessities of the case in this country:

"1. That purulent ophthalmia of new-born infants being the cause of a vast amount of blindness, mainly because of the ignorance of the public regarding its dangerous character, and the consequent neglect to apply for timely medical aid, it is desirable to instruct those in charge of new-born children by a card, in substance as follows:

"*Instructions Regarding New-born Infants.*—If the child's eyelids become red and swollen, or begin to run matter within a few days after birth, it is to be taken without a day's delay to a doctor. The disease is very dangerous, and, if not at once treated, may destroy the sight of both eyes."

Then follow some suggestions as to the method of distribution of these cards by means of the Poor law and Birth registration organizations throughout the United Kingdom.

"2. That the advocacy and aid of the medical press be solicited in drawing general attention, and especially that of the authors of text-books on midwifery, of the lecturers on the same subjects for students and midwives, and of the various institutions which train, and the charitable institutions which employ, midwives, to this important subject."

The subject was again brought forward for discussion at the last meeting of the British Medical Association at Leeds, by a paper of Dr. Karl Grossmann, of Liverpool. It was the unanimous opinion of all those who took part in the discussion that it was a matter for governmental interference, and there is no doubt in my own mind that the governing authorities should take the subject in hand, and protect society as far as possible from an infliction which is nothing short of a national calamity. But even if the subject is not likely to be made a matter of legislation for some time, the governing powers can at least lend the aid of their machinery for the distribution of such information as shall put those about to become mothers, and those having the immediate care of the new-born, on their guard.

In our own city, I think the Health Office could render great aid in this matter by causing the distribution of cards like the following, which is a copy of that furnished by the Eye Infirmary at Sheffield:

HEALTH DEPARTMENT, DISTRICT OF COLUMBIA.

IMPORTANT NOTICE.

If a baby's eyes run with matter and look red a few days after birth, take it AT ONCE to a doctor. DELAY is DANGEROUS, and one or both eyes may be destroyed if not TREATED IMMEDIATELY.

The cards should be given to the physicians of the poor for general distribution in their respective districts, with such instructions and explanations as shall lead to a full comprehension of the danger. They should also be left for distribution at the various dispensaries, and at whatever other public institutions those for whose benefit they are intended are to be found.

The cost of printing such cards would be trifling, and if there are no public funds from which the cost could be paid, I think there is no doubt but that it would be forthcoming from private charity. This, it seems to me, is the very least that we can or should do.

A few words in regard to the proper management of the disease when once it is set up may not be out of place here. The first and most important thing is cleanliness. The eyes should under no circumstances be bandaged. Free exit should be given to the discharge, and the matter should be wiped off with a soft sponge or, better still, absorbent cotton, dipped in an antiseptic solution, as fast as it is formed. This, of course, necessitates constant and unremitting attendance. The eyelids should be opened as wide as possible and the matter washed off the conjunctiva of the everted lids with a stream of antiseptic, or at least aseptic, liquid—such as a solution of boric acid, or of sublimate 1 to 5,000—every fifteen minutes or every hour, according to the quantity of the discharge; and three times a day the conjunctiva, after it has been wiped dry, should be washed over with a one to two per cent. solution of nitrate of silver by means of a camel's-hair brush. As the swelling and discharge diminish, the interval between these applications is to be lengthened. All cloths, sponges, or cotton used in connection with the eyes should be boiled or otherwise disinfected, or, better still, burned; for not the least of the dangers of the disease is the liability to infection of the eyes of the attendants. And for this reason, also, the hands of those treating or examining such eyes should be carefully cleansed and disinfected immediately afterward.

American Society of Microscopists.—The next meeting of the American Society of Microscopists will be held at Louisville, Ky., beginning August 12, 1890, and continuing four days.

GENERAL HISTORY OF THE EPIDEMIC OF INFLUENZA.[1]

By A. JACOBI, M.D.,

NEW YORK.

MR. PRESIDENT: The time at our disposal having been divided by you among several fellows, I shall confine my remarks to but two subjects connected with the epidemic influenza of the last month, viz., its character when studied in infants and children, and the treatment of the most dangerous features of the very worst cases.

Infants and children, like very old people, were rather more exempt than those between the fifteenth or perhaps twentieth, and the fortieth year. It was not always so, for the history of some of the epidemics emphasizes the fact that in them advanced age suffered considerably. I am not prepared to suggest a reason for the comparative immunity of the young; perhaps it is that they have been less exposed to the inclemency or variations of the weather. The temperatures of the little patients were often but moderate, and quite the reverse of what we are accustomed to observe in all feverish diseases at that age. Still, our observations are subject to mistakes because of the efficacy of our modern antipyretics, which have become too ready instruments in the hands of the anxious practitioner. This circumstance may also account for the absence of the abrupt defervescence and critical symptoms in general, so common in the influenza of the adult.

The usual symptoms of infectious diseases, such as lassitude, muscular pain, sleeplessness, delirium, dry heat or perspiration, suddenness of the attack, or incubation of seldom amounting to, or more than, one or two days, and anorexia, are met with in influenza of all ages. The local symptoms of the mucous membranes are very extensive. In a common catarrh they are limited to a few; in pertussis they are still more circumscribed locally; in influenza the respiratory organs, from the nose and frontal cavities to the bonchioles; the digestive, from the oral cavity to the rectum, are apt to suffer. According to the more exposed or stricken locality, the symptoms may vary in individual cases; there may be chill or heat, vomiting, constipation, or diarrhœa, presence or absence of cough, and dry or secreting Schneiderian membrane.

Nasal discharges were seldom copious, still more rarely tinged with blood. Hoarseness and croupy cough were but rare. Intense laryngitis, such as required tracheotomy in a few of the Russian cases which have been reported, I have not seen. Bronchitis with rhonchi of every description was frequent; the paucity of visible expectoration is explained by the difficulty young children have in bringing up the discharged material which is swallowed. The bronchial catarrh was very general, and extended over every region of the lung, sometimes with apparently but little suffering. Still I have seen, in children of six years and upward, considerable dyspnœa with slight cyanosis. The frequency of extensive bronchitis furnishes the explanation of how it happened that the pneumonias observed during influenza were genuine croupous, in less numbers than usual. I estimate that, of a hundred pneumonias of all periods of childhood, one-third are of the genuine lobar variety; during the three or four weeks, however, in which I saw influenza-pneumonia, I have not seen a single uncomplicated case of that variety. Long after the rational symptoms pointed to the presence of pneumonia it was impossible to discover bronchial respiration, or even bronchophony, which is detected so much more readily; dulness developed very slowly, but was mostly quite extensive; older children would now and then expectorate small quantities of blood, sometimes of a more or less bright color, or mixed with thin mucus, but never rusty. Extensive dulness was often over the upper lobe, particularly when there had been much cough—a good illustration of Dr. Melltzer's theory of the origin of pneumonia detailed in the MEDICAL RECORD. Sometimes the dulness was pleural; in a few cases the fluid removed by explorative puncture was serous, but rather turbid; finally, however, it was absorbed. In one case only it was so turbid, containing pus-cells in small quantities, that aspiration was resorted to. From the left pleural cavity of that child, a girl of less than two years, a few ounces were removed, with convalescence following.

Infants under a year did not suffer much from the respiratory symptoms of influenza. It is only from the second year that these are liable to appear in large numbers; before that the locality of least resistance is the alimentary tract. Pharyngitis and amygdalitis were sometimes absent in the beginning, or but little marked, even in cases of otherwise intense suffering and great prostration. Indeed, the injected throats, so prevalent during an epidemic of scarlatina or diphtheria, were not universal in uncomplicated influenza. Follicular amygdalitis, I have seen but once in such a case, without being able to point to an actual connection between the two. When the whole oral cavity suffered, it was generally the tongue that began to be affected. The edges became red, the papillæ elevated, even the gums slightly congested and of looser texture. In accordance with the mild affection of the throat, swallowing was rather easy, with the exception of those cases in which there was much rhinitis and consecutive conjunctivitis. The latter, I may here be permitted to state, I never met as the first symptom; that must have happened to the author who placed the location of invasion in that organ. Otitis media I have met with three times, in one case on both sides. The four tympana ruptured spontaneously, and I am told that all are doing well. Vomiting in the beginning was quite frequent, loss of appetite the rule, diarrhœa not uncommon; rectal catarrh with tenesmus, I saw once only.

The scarlatinous eruption mentioned by many I met with but twice; once over the chest only, in a child of two years, with but a slight elevation of temperature; once over the whole surface, with a temperature of 104° and more. I took it for the general erythema liable to appear in predisposed children during any fever. Facial herpes, mostly on the lips, I met several times; urticaria, though it be common enough at that age, not a single time. In the case of serious broncho-pneumonia in a girl of five years, I was told that there had been urticaria ten days previously. It may be that there was a peculiar tendency to exudation, giving rise to urticaria first, and pneumonia afterward, depending on either the structure of the blood-vessels, or on vasomotor influence. Beaumetz's theory, that the presence of eruptions is a characteristic symptom distinguishing this year's influenza from the common form of catarrhal fever, I cannot share. The nervous symptoms were those common to all feverish diseases. Vomiting was probably due to gastric catarrh, and not to cerebral irritation. Headache was frequent, almost the rule; diagnosticable in infants by the vertical contractions of the frontal muscles, and the dazed appearance of the patient; it was a frequent complaint in children of from six to twelve years. A convulsion occurred in a child of three years whom I saw but once, ten days afterward, for pleuro-broncho-pneumonia; very severe intercostal and abdominal neuralgia in a boy of six, with pleurisy of the right side; rigid contraction of the muscles of the neck occurred in several infants, and lasted from one to three days. Temporary delirium was present in a few children with high fever. Paralysis, mentioned by Da Costa, I have not seen. Pain in the extremities was frequent; older children would complain like adults; infants moan or scream, and object to being moved. A tall girl of five, who was reported to be a chronic sufferer from growing pain, had excessive pain about the knee and ankle joints. Passive motions did not add much to her suffering, but the slightest pressure on the epiphyses provoked intense screaming spells. Evi-

[1] Read before the New York Academy of Medicine, February 6, 1890.

dently her chronic epiphysitis had met with an exacerbation during her influenza. One girl of three years I was called to see for articular rheumatism; the synovial membranes and cavity of the sensitive knee were intact, but the intense pain of the epiphyses of the two femora and tibiæ rendered the diagnosis easy. Cold applications and immobilization proved beneficial in a brief time.

The weekly reports of the Health Department furnish the average number (in seasons of average severity) of cases of scarlatina and diphtheria. The comparative absence, however, of measles, and also pertussis, is striking. The two latter are frequently contemporaneous, or precede each other. Their absence during the epidemic of influenza may be accidental, but future research will have to teach us whether it is more than a mere casualty. Vienna journals report the diminution of measles *pari passu* with the invasion of influenza.

Relapses of influenza were certainly not so frequent and marked in the young as in the adult, perhaps for several reasons. The disease was often milder than in advanced age, with a tendency to last longer and terminate in more gradual recovery. But the main reason for relapses was probably wanting, that is, errors of diet committed by the adult, and premature exertion and exposure.

Individual prevention consists in protection against exposure. The skin can be fortified against the results of sudden changes in the temperature by the habitual daily use of cold washing, sponging, or bathing. Catarrhal affections can be avoided by equable temperature of the room and warm clothing. It is true, however, that these measures are more serviceable in common catarrh than effective against the epidemic invasion of influenza. Still, the increased vigor of the superficial integument renders the internal integument, the mucous membrane, more enduring.

If influenza were a miasmatic disease only, no caution would protect. Among those who claim influenza to be a miasmatic disease only, is August Hirsch, than whom there is no greater authority on the history and geography of maladies. His main reason for believing the disease to be miasmatic is its brief duration. But the number of those who take it to be more or less contagious is by no means small. Of the latest authors I mention only Guiteras (MEDICAL RECORD, January 25th), Nothnagel, and Fürbringer, who compares the contagious nature of influenza with that of typhoid fever.

There can be no doubt as to the miasmatic origin of influenza in many well-authenticated instances. Thomas Watson, in his "Lectures on the Principles and Practice of Physic," London, 1871, vol. ii., p. 46, refers to the case of the frigate Stag. After having arrived near the coast of Devonshire, during a head wind, on April 3, 1833, she had forty sick within half an hour, sixty more in two more hours, and one hundred and sixty on the following day. But the dissemination of miasmatic germs has its limits. We can hardly suppose that they can be carried thousands of miles through air-currents; and the assumption of a proliferation in the air itself is contrary to everything we know of the biology and increase of disease-germs. Thus, even when we assume that some stray germs may be saved from destruction in their various travels, we cannot believe that all at once they should so multiply as to infect hundreds and thousands in almost an incredibly short time, particularly in the winter and on a snow-bound coast.

To explain this rapid multiplication we have to fall back on the aid of either soil or the human body. But influenza is found on every soil, normal or frozen, dry or moist, and not every soil suits every germ in the same manner. Thus, it follows that the human body and communication between human beings furnish a readier explanation for the rapid spreading of the disease. E. A. Parkes, in J. Russell Reynolds' "System of Medicine," vol. i., refers to Haygarth and Falconer in the last century, who traced a number of cases to direct contact. During the height of an epidemic in large cities it is impossible to prove that, but in the beginning of an epidemic, and in the scantily populated districts of the country, such proof can be more easily furnished. The short duration of incubation is no reason for denying contagion, for scarlatina yields numberless examples of the same experience. Bäumler[1] relates that the first two cases in the surgical clinic of Freiburg were due to a lady lately arrived from Paris. In the hospital the patients in opposite beds caught the disease first. Thus, it appears that while influenza is a miasmatic disease, it is also intensely contagious, and with very short incubation. The fact that in a house full of influenza patients one or more may escape, does not militate against the contagious nature of the disease, for the same observation is frequently made during the epidemics of scarlatina, measles, and diphtheria.

Therefore, in the interest of prevention, the attempt at isolation of the sick, or the well, is justifiable, though the volatile nature of the pathogenous influence is so marked as to render quarantine mostly futile. The immunity, often experienced, of monasteries and penitentiaries justifies the non-admission of influenza patients to public hospitals as far as possible. Thus it was that I advised against their reception in the Mount Sinai Hospital. It is true, though, that serious sequelæ or complications cannot possibly be excluded, nor the invasion completely avoided. The question whether the schools ought to be closed during an epidemic is a very serious one; perhaps the consideration that children do not suffer to the same degree with adults militates against the enforcement of such a measure. In Vienna, a few weeks ago, the Christmas vacations, just entered upon at the outbreak of the epidemic, were lengthened. If the schools cannot be entirely closed, care ought to be taken that they be aired more carefully than ever, thoroughly heated through the night, and an equable temperature, measured more by the thermometer than by the individual pleasure, wants, or sensations of the teacher, kept up all day.

Though influenza be a self limited disease, it must be treated. The discomfort it carries with it, the prostration it produces, the sequelæ which render its invasion a possible or probable danger, require relief. Statistics prove nothing when it is stated (as for instance in Berlin) that no death has occurred of influenza. Statistics prove a great deal when we remember that a few weeks ago our death-rate was doubled. There is no better instance to prove that not the malady but the sick must be treated. Treatment will not shorten the disease, but it may save strength, and facilitate and shorten convalescence. The patient must keep in bed during the illness and part of the convalescence. Whoever does not, risks a relapse. Eyes and brain are rested by excluding bright light and noise. Muscular pain and fever can be soothed by diaphoretics—acetate of ammonium, aconite; cough by opiates; intestinal stagnation and gastric discomfort by a single purgative dose of calomel administered at once; very copious secretion by belladonna. Beverages must not be iced; food fluid.

All the known old and modern antipyretics have been used. Quinine appeared to me to have a better action during convalescence, in a few daily doses of from one to three grains, than during the height of the fever. There are cases, however, in which a larger dose has the effect, often experienced, of prolonging the action of any of the modern phenol preparations. A very large dose, say of thirty grains, would combat supra-orbital neuralgia, where smaller doses, or other sedatives had failed. In a series of influenza cases, from ten to twenty grains of quinine were taken in the forenoon, a single dose of phenacetin, of from twelve to twenty-five grains, in the afternoon, and a Dover powder at night, with pleasant effect. There is not one of the modern remedies but whose virtues have been tried and extolled.

[1] Bäumler, in Münch. Med. Woch., 1890, No. 2.

Acetanilid ought to be preferred among the poor, because of its low price, antipyrin mainly where great solubility is required for the purpose of its administration in rectal and subcutaneous injections. Phenacetin is preferable to either, because of its less uncomfortable effect on brain, heart, and skin.

Gastric irritation behaves best under resorcin; gastro-intestinal disorders have been treated with salol, salicylates, and salicin. The first is not always well tolerated; salicylate of sodium is apt to add to intestinal irritation; salicin is perhaps the most effective and least irritant of all. The dose for an adult is from five to fifteen grains every two or four hours; those of T. I. Maclagan (*Lancet*, January 11th) are larger. He gives, for three or six hours, twenty or forty grains hourly, after that time every two hours, and later on in longer intervals. By this treatment he claims to have obtained the beginning of convalescence within from twelve to twenty-four hours. I find it difficult, however, to believe that anything like abortion can take place, in response to internal medication, in a disease the invasion of which is sudden, incubation exceedingly brief, and defervescence to be expected after two or four days.

Infants and children require all of these remedies in proportionately large doses.

Mr. President, I am aware that I shall be followed by those who have ample experience and vast knowledge of the subject under discussion, and that my remarks must be brief. I shall therefore add a few fragments only to say that, while the treatment of the acute attack may permit of laxity and leeway, that of some of the complications and sequelæ taxes the heart and brain of the physician to the utmost. To this very hour I am under the ban of the impression made by men, women, and children, perishing by the dozen of pneumonia, broncho-pneumonia, and pleuro-broncho-pneumonia. I need not tell my audience that never have we seen so many cases of pulmonary disease of a peculiar type and fatal character in a few weeks. The subject will be discussed by one of the gentlemen who are to speak to-night; thus I shall refrain from everything in this connection, with the exception of a few remarks on the therapeutics of these severe cases. I venture to make them, though perhaps they be but a repetition of what everyone here is fully acquainted with.

The great danger is prostration, exhaustion, heart failure, particularly in very old age, after previous illness, in phthisis, chronic pneumonia, emphysema, kyphosis, cachexia, alcoholism, nephritis. Wherever vomiting is severe, feeding by mouth is an impossibility, and absolute abstinence adds to the general exhaustion. Thus rectal injections must take the place of stomach feeding. May it not be forgotten by my younger colleagues that, besides alcohol much diluted and peptones in solution, nothing is better absorbed by the rectum and colon (the latter to be reached in the adult by a long tube attached to the nozzle of the fountain syringe) than egg stirred in fairly large quantities of fluid; that the quantity to be injected may be as large as from half a pint to a pint if it be made to reach the colon; and that starch-water is preferable to water, inasmuch as starch is transformed into dextrin in the larger intestines.

When there is excessive perspiration, fair quantities of fluid must be injected at regular intervals to repair the loss.

Severe vomiting is best alleviated by morphia, internally, if possible, otherwise subcutaneously, or to the oral cavity in such a manner that a few drops of Magendie's solution are poured into the hand or a spoon, undiluted, and sucked down along the mucous membrane, which absorbs it very readily.

Very high temperature prevents absorption from the stomach. The readiest methods to reduce it, particularly when the stomach rejects remedies, is the subcutaneous use of antipyretics, whenever the rectum is either wanted for feeding purposes, or is not in a fit condition to retain and absorb. Antipyrin may be so used in five parts of water, the carbamide of quinia in the same proportion.

Suffocation with cyanosis has been relieved, and time gained, by the inhalation of oxygen, a few minutes in succession, every ten or fifteen minutes. The current of the gas must be introduced into the larger nostril, for the cyanotic patient, struggling for breath, does not use his mouth intelligently for breathing purposes. If the stomach be in good condition, Siberian musk, in doses of from five to ten grains, every half or whole hour, or two hours will act satisfactorily.

The worst cases of heart failure give your internal medicines no chance whatsoever. Subcutaneous cardiac stimulation is the only method promising any effect. Alcohol, pure or diluted, will act as an adjuvant only; indeed, it is not advisable to rely on one remedy where every lost minute may tell against the victim. Sulphate of spartein dissolves readily in water, and may be injected in doses of from half a grain to a grain every half-hour or hour, according to necessity; as it is readily eliminated, no cumulative effect need be feared. Salicylate of caffein and sodium (the benzoate is not quite so soluble) dissolves readily in the double quantity of water, so that a syringe holding half a drachm contains about a dozen grains of the double salt, equal to about six grains of caffein. Camphor dissolved in five parts of oil of sweet almonds, when slowly injected, is hardly ever painful, and much more pleasant than the solution in alcohol or ether. Convallamarin, in doses of from one hundredth to a twentieth of a grain, has also yielded satisfactory results in some instances. One-twentieth of a grain of strychnia adds to the effect of those enumerated above; the tact of the practitioner and close observation of the heart-beats, pulse, and general condition of the patient, who under such distressing and threatening circumstances must not be left to the care of a nurse, must decide which, and how many, of the remedies advised are to be employed, and how often, and at what intervals, they must be repeated. I know that not a few, who seemed hopeless, have been saved by strict personal attention.

CLINICAL NOTES ON THE COMPLICATIONS AND SEQUELÆ OF INFLUENZA.[1]

By F. P. KINNICUTT, M.D.,
NEW YORK.

THE marked predominance of symptoms which must be referred to a more or less profound disturbance of the nervous system, will be generally admitted as stamping the epidemic of influenza which has prevailed so extensively in our midst during the past several weeks. Such symptoms have characterized not only the onset and the febrile stage of the disease, but have been prominent in its complications and sequelæ.

Not a few cases which have fallen under my observation, and which must be regarded as true instances of infection, have been limited to such manifestations. They have consisted often of a slight feeling of dizziness at the onset, headache, occasionally nausea, more or less severe pain in the back and limbs, accompanied with a feeling of prostration and mental depression; the attack running its course in twenty-four or forty-eight hours, and with the preservation of a normal temperature throughout. The aggravated character of several of the above symptoms in more acute attacks need not be referred to. The rarer nervous phenomena which have been observed, both during the attack and as sequelæ, are of great interest. It is desirable to accumulate individual experience on this point. I shall therefore venture to record my personal observations.

Obstinate and acute neuralgias have occurred as sequelæ in many of my cases, of the trigeminal and sciatic nerves most frequently. I have seen two cases of periph-

[1] Remarks made before the New York Academy of Medicine February 6, 1890.

eral neuritis of moderate severity, but not accompanied by atrophic symptoms. The mental depression which has been so prominent and common a manifestation, need not be referred to further than to call attention to the suicidal impulse that has occasionally been associated with it. I have observed one case in which this was present. More or less active delirium during the attack, with very moderate elevation of temperature, has been present in several cases. A nurse in St. Luke's Hospital suffered from vivid hallucinations of sight for several days following the febrile stage. Obstinate and painful cramps in the calf muscles, manifesting themselves during convalescence, I have seen in several cases. An absence of the knee-jerk, mentioned by Da Costa in his recent paper, without reference to its association or not with a peripheral neuritis, has not come under my notice.

In one patient, a male adult, certain painful symptoms affecting the legs only, were believed to be due to a vaso-motor paresis. In two patients under my observation, a child five years of age and a woman of forty-eight, characteristic attacks of herpes zoster were developed during apparent convalescence.

In a single family I have had the opportunity of seeing, with Dr. Beattie, of this city, the following group of cases. Three children were attacked almost simultaneously with symptoms of influenza, fever, in the older children (four and six years) headache, and moderate tracheal catarrh. In all, the onset was accompanied by a general convulsion. In one case, only a single convulsion occurred; broncho-pneumonia was developed later, from which the patient has not yet recovered. In a second child, the influenzal attack was of slight intensity and short duration, but general convulsions occurred from time to time during the following week, and in the absence of all other symptoms. The third patient was an infant of eighteen months. Convulsions continued to occur until death, one week from the beginning of its illness, with an absence of other symptoms and physical signs than those of a moderate bronchitis. Such varied disturbances of the nervous system occur in few infectious diseases, and yet I believe they must justly be regarded as having their origin in a specific infection.

In conclusion, I desire to refer to certain features of the pneumonia, which has prevailed so extensively during the epidemic.

The two forms, broncho and primary lobar pneumonia, have occurred with nearly equal frequency in my experience, including both hospital and private cases. I have been impressed with the unusual severity of the former form in adults, and with the unusual amount of capillary hemorrhage, as indicated by the presence of a very considerable quantity of bright-red blood in the sputa, and with the frequency with which the latter form has involved both lungs. The diagnosis of primary lobar pneumonia was based upon the clinical course and physical signs of the disease, confirmed in a number of cases by autopsy (entire lobes in both lungs being in a state of uniform hepatization). Many cases which were undoubtedly examples of broncho-pneumonia, have presented the physical signs of an unusually extensive consolidation for this form.

In a case of pneumonia terminating fatally in St. Luke's Hospital, the autopsy disclosed a perfectly uniform and complete hepatization (red) of an entire lobe of one lung (the typical lesion of primary lobar pneumonia), and small scattered patches of collapsed pulmonary tissue and pneumonic consolidation (equally typical lesion of broncho-pneumonia) in the other. In other words, a primary lobar pneumonia apparently coexisted with a broncho-pneumonia in this case. Not a few cases of *apparent* pneumonia which have rapidly terminated fatally, I am inclined to believe, were really examples of simple massive congestion, associated with feeble hearts, either previously diseased or affected by the profound nervous depression accompanying the influenzal attack.

The above observations point to the exceptional severity of the pulmonary affections accompanying the present epidemic of influenza.

Through the kindness of Drs. Cutler and Bishop, of the house staff of St. Luke's Hospital, I am able to append the following summary of all cases of pneumonia treated in the wards during the epidemic: Lobar pneumonia, fifteen cases, seven deaths—both lungs involved in four cases. Broncho-pneumonia, nine cases, three deaths.

THE DERMATOSES OF INFLUENZA.[1]

By RAMON GUITERAS, M.D.,

NEW YORK.

I HAVE tried, in considering the subject before us this evening, to dwell especially upon some one branch of symptoms or complications, and for this reason have chosen some of the various cutaneous efflorescences which have occurred as concomitant with, or the result of, the disease in question, and to mention incidentally some accounts of complications and statistics which I have derived from interviews with various other physicians. In considering these various eruptions, the one which strikes us as by far the most important, especially from a diagnostic point of view, is the erythema which occurs in certain cases, and which so particularly marks them, that in considering this variety I shall classify it separately under the name of Influenza Erythematosa. This form of influenza so closely resembles scarlatina that a very careful diagnosis is often required to differentiate them; I will therefore consider some of those cases clinically, as in so doing we may get a better idea of them.

CASE I.—Clara S——, aged nineteen, was reported to the Board of Health as a case of scarlatina, and the Board was notified that the family desired her removal to the hospital. Dr. Dillingham, the diagnostician of the Board, was accordingly sent to investigate. Patient had been exposed to scarlatina some time before this; she complained of severe frontal headache, had frequent vomiting, and great prostration. Examination revealed girl suffering from an acute febrile attack, temperature 103° F., pulse 100, markedly prostrated, the conjunctivæ congested, and an erythematous blush present over face, chest, and upper extremities. On examining the tongue it was seen to be coated and enlarged, and reddened papillæ were seen on sides near tip. Considerable congestion of the fauces was also present. Dr. Dillingham said that, although he considered it a very suspicious case, it was nevertheless undoubtedly influenza, and advised isolation. On the following day the eruption had disappeared.

CASE II.—A similar one in a man aged thirty-six, who had been exposed to scarlatina. Isolation ordered. Eruption disappeared on following day.

CASE III.—Child aged six, temperature 104 F., marked delirium, followed in few hours by erythematous blush and symptoms above mentioned.

CASE IV.—Maid in private family, aged twenty-two. I had treated a case of scarlatina of a very mild type in the same family the week previous, in which the temperature did not go above 102° F. January 6th, was first called to see patient. She had been vomiting and suffering great gastric distress, severe frontal headache, marked prostration, etc. Erythema of face, chest, and upper extremities. Temperature, 103° F., pulse, 108. Angina, furred tongue, and enlarged papillæ on sides near tip. Eruption faded in twelve hours.

Dr. Lynde, of the New York Foundling Asylum, reported six similar cases, in all of which the eruption disappeared in twelve hours. These cases all occurred in adult females, ranging in age from twenty to thirty years. Several other physicians in this city have noticed similar eruptions.

Dr. Simpson, of Plainfield, N. J., reported such a form of the epidemic as being quite prevalent there among

[1] Read at the Meeting of the New York Academy of Medicine, February 6, 1890.

children. According to the cases noticed by observers in this city, however, it would seem that it is more prevalent among adults, and that too in adult females. The resemblance between this erythema and scarlatina is at first glance a striking one, but a careful examination will reveal many points of difference, *e.g.*:

Erythema.	Scarlatina.
Temperature not as high.	
Pulse not as rapid.	
Eruption only over face, chest, and upper extremities, not punctate, but a general pinkish blush.	Eruption over face, chest, and both extremities, begins in a fine, punctate manner, tends to coalesce, and is of a bright scarlet hue.
Angina not as marked.	
Tongue has thick white coating, with enlarged papillæ on sides near tip.	Tongue not as thickly coated, but more markedly strawberry.
Skin moist.	Skin hot and dry.

Herpes labialis has been observed in several cases, occurring principally in the catarrhal form of the disease, appearing generally on the second day and lasting for three or four days.

Miliaria has also been observed occasionally during the epidemic. In one case, where it was quite marked over neck and chest, patient was suffering from the gastric form of the disease. It generally occurs in the papular form, and is only of a few hours' duration.

A peculiar papular eruption occurring discretely over neck, arms, and chest, has been observed by Dr. Byron in several cases of influenza, among the Italians seen at the New York Dispensary. The papule is quite large with an irregular base, and of a bright red color, closely resembling an erythema multiforme. It appeared generally on the second day, and disappeared in two or three days.

Urticaria has also been reported as occurring in some cases of the gastric type of the disease, coming on at onset and lasting for about twenty-four hours.

Various other eruptions have also been mentioned as occurring during the epidemic, but not in sufficient numbers to warrant their mention in connection with the disease. For instance, one observer mentioned a case in which the rheumatic pains were intense, and which was accompanied by a furunculosis scattered over the entire body.

Again, a woman, aged forty, who had been suffering from influenza for some three weeks or more, accompanied by severe rheumatic pains, was suddenly attacked by an eruption, eczematous in character, scattered in patches over body and extremities, which is still present.

These two latter cases I simply mention as occurring coincidently during the epidemic, and attach no further importance to them.

After reviewing the various other groups of eruptions above mentioned, most of which are erythematous in character, it seems to be an open question whether they are dependent upon the disease directly, or the gastric complications accompanying it.

Acute Hyperæmia of Tongue.—Dr. Burke reported seven cases of sore tongue—in which cases the tongue was enlarged, reddened, hard and tender, so that the pressure of the teeth against it was quite painful. There was also a feeling that the tongue was too large for the mouth, and the patients went around with theirs protruding somewhat and resting upon their lower teeth. The papillæ were enlarged and very sensitive, especially the group situated on either side and near the middle. This came on generally on the second day, and lasted about a week. This complication did not seem to occur with any particular type of the disease, although some angina existed in most of the cases. The doctor had also suffered from a similar attack. I was sorry not to have had sufficient time to make further inquiries into this particularly interesting feature of the disease, but Dr. Burke was one of the last men visited by me. I remember, however, mention having been made of a similar case by another observer, but at the time attached no further importance to it.

Statistics from Deaths Reported.—It might be interesting, perhaps, to read a few statistics tabulated from a report which I am preparing for the Board of Health, regarding the various deaths reported as due to influenza. The newspaper reports were in most cases grossly exaggerated, and simply served as sensational food for the masses.

The number of deaths reported to the Health Board as due to influenza during the epidemic was, 121.

Of these, I have investigated 86 through their attending physicians, and find that the causes are somewhat as follows:

Lobar pneumonia	33
Lobular	21
Bronchitis	13
Meningitis	4
Other diseases	15
Total	86

Of the remaining 35 deaths, I find from the death certificates that they resulted from the following diseases:

Pneumonia	19
Bronchitis	8
Other diseases	8
Total	35

Of the 33 deaths reported as due to lobar pneumonia, I find that 28 of them, or eighty per cent., were in men, that only 4 of them were over fifty years of age, and only 1 was under twenty, he a child of but seven days. The majority were between the ages of thirty and forty-five.

The duration of the disease was from two to five days in most of the cases, the quickest fatal case being of one day's duration, and the slowest of eleven days.

In Lobular Pneumonia, on the other hand, 15 of the 21 deaths were in women, and of the 6 occurring in males, 4 were over fifty years of age. The general age also differed very much, as they were in most cases younger or older than those of the lobar variety. The duration also differed, the disease generally not covering as long a period.

Bronchitis also seemed to be more fatal in women, as in 13 cases, 9 were in women. It was, also, especially fatal in the aged, most of the deaths occurring in women over fifty years of age.

Meningitis.—Four deaths were due to meningitis. They were all in males. Three of them were between the ages of twenty-four and fifty, the other, a child of three years. The average duration was five days. The remaining 15 deaths were as follows:

Valvular disease of the heart	2
Phthisis	2
Dysentery	2
Nephritis	2
Sarcoma	1
Eclampsia	1
Peritonitis	1
Pleuritis	1
Influenza	2

Thus we see that there were only 2 deaths due directly to influenza, and of these 1 was in an Italian, sixty-one years of age, in a weakened and debilitated condition, the other in a baby of eight days. In these 15 cases above mentioned, the influenza was the determining cause, and frequently made rapid work, some of them succumbing in a few hours, apparently from the shock of the onset.

In reviewing the history of the manner of dying in these cases, one cannot but remark how many of them were due to "heart failure" and a peculiar "choking-up," as spoken of by the various physicians in relation to deaths in broncho-pneumonia and bronchitis, causing death by asphyxiation.

This would seem to point to the fact that the prostration occurring with the influenza is the most dangerous

factor in the disease, and that it seems to exert an especially depressing influence on the action of the heart and lungs, as was shown by the tendency to "heart failure" and the diminished power of expectoration.

107 West Fifty-fourth Street.

Clinical Department.

A CLINICAL STUDY.

By H. H. SPIERS, M.D.,

Edinburgh, O.

R. E——, farmer, aged fifty-eight, in good health, but not very muscular, called on me last February with a troublesome eruption, about the size of a silver dollar, on the wrist of the left hand. It was oval in shape, dark red in color at the base, with minute white vesicles rising over the entire surface, alternately appearing and disappearing. Various ointments were used for this eruption. At the suggestion of Dr. A. an ointment of sulphate of zinc, 3 j. to vaseline ℥ j. was used. No particular result, only it made the wrist extremely tender. The mercurial ointment proved the most effective. After a time the sore slowly healed. On March 19th Mr. E—— consulted me relative to some difficulty of kidneys. An occasional pain in that region; no fulness; no particular side; at times scanty urine. Mr. E—— thought he had no serious difficulty, for he had experienced similar pains and scanty urine many times before. His remedy had been ten to fifteen drops of spirits of turpentine, taken once or twice a day. It always afforded relief. Gave him a mild laxative in pills containing balsam copaiba. About two weeks later he reported, "Feeling much better." Again, in about ten days, "Am feeling some better." On April 19th, "Come and see me." On April 18th Mr. E—— ploughed his garden. Was feeling as well as usual. On the night of the 18th he was in an agony of pain, tossing and rolling from one side of the bed to the other without sleep. "What can be the cause?" was his first question. Saw him in the afternoon. In appearance, since March 19th, one month, Mr. E—— had lost in flesh. His face indicated great anxiety. Was in but little pain at that time, but had passed a very hard night. Pulse 65, full and regular; temperature about 100° F.; tongue heavily coated; appetite small, almost *nil*. On the left side was a distinct tumor extending from the crest of the ilium, high in the lumbar region, and from the linea alba to the spinal column. The pain was low down, near the sigmoid flexure of the colon. On palpation no tenderness was felt at any other part except this. On percussion of right side the bowel-sound was heard, and no atrophied or enlarged liver could be detected. On percussion of left side a dull thud was heard. The tumor seemed a hardened mass. What could it be? The first thing that entered my mind was, Is it possible that this tumor is fluid, and is due to the rupture of a blood-vessel? But the countenance did not indicate that. There is always that pallid, death-like look in all severe hemorrhages. On asking the question, "Have you hurt yourself by lifting in any way?" "Not that I know of, have not been lifting." Hemorrhage excluded. My next thought was: Has this man an enlarged spleen? On questioning him he replied that he never had fever or ague; never had a chill in his life. On closer percussion I could detect a line of higher intensity between the tumor and true location of spleen. Enlarged spleen excluded. I then said it must be an obstructed bowel. The pain is low down the seat of the obstruction. Questions were again put. "Have you felt any fulness in this region in the past?" "For the past two weeks on buttoning the waistband of my pants there has been a fulness." "Has there been any tenderness?" "For the past month, in reaching over a bin to get oats, there has been a tenderness." "Have you had a daily evacuation of the bowels?" "Not daily, about every other day, and it seemed to me I did not pass one-half as much as I ought." "Have you ever experienced any difficulty with your kidneys other than the above-named?" "None whatever."

In my judgment this fulness is due to retained fecal matter; and that the case before me is a case of obstruction at the sigmoid flexure of the colon. The treatment was in accordance with the opinion. The hips were elevated with a pillow; injections were used every two or three hours during the day, and ordered to be retained as long as possible. Soap and water were used. A small opiate at night, and no nourishment except milk and lime-water, with an abundance of pepsin. He was to report by telephone in the morning if no better. Saw him the next morning, and asked for consultation. Dr. A. sent for at 10.30 A.M. The doctor examined the patient, and informed me as follows: "A very bad case. A case of large white kidney. We can do nothing for him but to sit down and wait and let him die." Of course, I differed somewhat from the doctor, and said: "He may have a large white kidney, but at present he is suffering from obstruction of the bowels." The doctor replied: "Mr. E—— may have some impaction of the fæces, but I feel assured he has a large white kidney." The improbability of the diagnosis seemed to shock my sense of fitness. "Mr. E—— to-day is doing the bulk of the work on one hundred and twenty acres of land; is in comparatively good health, and in eighteen hours has a large white kidney. Large white kidneys do not grow so rapidly." "Yes," said the doctor, "but this kidney has been growing a long time." "True, but people with large kidneys generally rest in easy-chairs." Thus we differed. But, thanks to our mutual good-nature, we agreed on treatment. In the evening of the same day—April 20th—I called Dr. S., who was informed as to the history of the case, and was also given the individual opinions of the attending physicians. He was, therefore, requested to examine the patient with all possible care. He did so. His report was: "A case of enlarged spleen." I then referred the doctor to the fact of discovering a line of dulness, of higher intensity, between the tumor and the true location of the spleen. Dr. S. again went into the room and examined in the location designated, but neither of us could detect any difference in the percussion note. The tumor was evidently increasing in size, or, at any rate, was becoming more solidified and extended in the direction of the spleen. I felt satisfied Dr. S. was mistaken. On Dr. S. asking the question, "Did you ever see a case of obstruction of the bowels like this?" my answer was, "Yes, in the dissecting-room."

At Dr. S.'s suggestion injections of sweet-oil, salts, and infusion of senna were used. The case continued day after day, the bowels not acting, the pulse becoming quick and irregular, the temperature 102°, with little variation, the extremities cold, and the general condition pitiable in the extreme. Dr. A. attended the case with me every day, and announced the patient would probably live but a few hours. It seemed to me wrong under the circumstances not to inform the family of the true state of things. The information was therefore given. Mrs. E—— called Dr. W. So far as I know, Dr. W. knew nothing of our opinions. He was given a brief history of the case and requested to examine. His words were: "The worst case of obstruction of the bowels I ever saw in my life. The patient will certainly die." At Dr. W.'s suggestion a rectal tube was passed as high as possible, and injections used through this. At the end of the twelfth day from taking the bed the bowels began to act. All the passages were fluid and very offensive. It made lively work for the attending nurse. On one or two occasions he passed an orange-colored fluid, with shreds of mucus and large quantities of slime. After each passage the patient expressed great relief. Milk and lime-water were taken with a zest. After a day or two of almost continuous operation of the bowels the tumor was much reduced in size. The large intestine could then be felt its entire course. But it was also evident that there was something more than obstructed bowel. A tumor still remained.

Dr. S. was again requested to examine. He acknowledged his mistake in enlarged spleen. In his judgment the tumor contained fluid. Dr. A. had expressed the same opinion several days previously, and I had denied it. But in all cases of tumor of an uncertain nature an exploring needle is perfectly proper. Accordingly, at about the end of three weeks of Mr. E——'s sickness, Drs. S., A., and myself proceeded to aspirate. Result: One gill of blood containing an excess of fibrin. Dr. A. was not satisfied. The needle should have been passed higher up. He knew there was fluid. Three or four days later Dr. A. and myself passed a needle in the place designated, first using an injection of morphine and cocaine. No fluid found. Another instrument was used with a larger needle. Result negative. Now, I do not assert there was no fluid present, but certain it is, none was found. The case continued about the same. Occasionally there would be a rally. Then a little hope would be expressed. One great feature in the case was the hopefulness of the patient. He felt assured that he would recover. Directions are minutely followed. Nourishment is taken at regular intervals. A small hypodermic of morphia used every night. Gastro-enteritis supervenes. It seems to extend the whole length of the alimentary canal. Immense quantities of blood, slime, and mucus are passed. The passages are offensive in the extreme. Where does the blood come from? the tumor or the ulcerated bowel? The patient declares these discharges afford relief. They certainly do not seem to make him weaker. On one point Drs. A., L., and S. agree: The tumor is diminishing in size. A. still clings to large white kidney. S. says cancer of omentum, involving the bowel. No trouble with kidney unless it prove cancer. L. says we must let a post-mortem clear up the case.

The urine is separately examined by the three M.D.'s named. L. discovers with microscope a small amount of oxalate of lime. Otherwise normal. A. says the specific gravity is a little below normal, but is not far from right. S. pronounces it normal. At no time during illness is the amount excreted in excess. The urine continues as above until within five or six days of death. It then assumes a darker color, and on examination blood is found. Ten days before death Mr. E—— has a decided chill. On examination a soft spot, with distinct fluctuation, is found on the left side in the lumbar region. A hypodermic is again given, and aspiration made by A. and myself. About one pint of disorganized blood is withdrawn. This seems to afford a little relief, but it is very evident at every visit that the end is near. He passes away the morning of June 3d. Post mortem held the afternoon of the same day. Present: Drs. W. and son, A., B., and S. The first thing observable is the great emaciation. Although the sickness is comparatively brief, the digestion fair, the amount of nourishment taken at times full, it is evident to all Mr. E—— is gradually losing flesh. This was seen at the first, and inunction of sweet oil and quinia was used every two or three hours during the entire sickness. But emaciation continued.

On opening the cadaver the diseased condition and abnormal position of left kidney is at once noticed. The terms used are comparative. No scales were employed. The left kidney, enlarged to three times its natural size, with one-third of the organ gone, lay about two inches to the left of the umbilicus, close to the anterior wall. The opposite kidney was in its normal position, a little enlarged, but healthy. Spleen and omentum normal. Liver twice its natural size, and indentations on its surface made by the ribs. But if I may speak of any one thing to be thought of and speculated about more than another, it is the presence of at least one quart of sanious clotted blood in the abdominal cavity, without a surrounding cyst, in connection with the colon by many openings. For three weeks the fluid blood had passed with the fæces through the openings in the colon. The clot had been retained. Could it be possible for a patient to live in this condition? He did live, and entertained a hope of recovery. What caused this collection of blood? What made these many openings in the colon? Why the abnormal position of the kidney? What is the ailment? These and kindred questions give my article the above title.

INTRA-ABDOMINAL ENUCLEATION OF A UTERINE FIBROID.

By D. TOD GILLIAM, M.D.,

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THE proverbial uncertainty attending the diagnosis of abdominal tumors, and the many unforeseen and unlooked-for complications revealed by the abdominal sections, not infrequently necessitate a radical change of tactics or a total abandonment of the operation. It sometimes happens that none of the recognized methods will meet the exigencies of a particular case, and then the operator, if he would proceed, must strike out boldly on a new line, governed only by certain cardinal principles which may not be lost sight of.

The following case illustrates, I believe, a technique hitherto unpractised, and may be of service to anyone encountering a like condition of things. M. E. R——, single, aged thirty-seven, has been the subject of a uterine fibroid for the last sixteen years. Being a milliner, and dependent on her own exertions for a livelihood, she has experienced much embarrassment from her affliction, and much of the time, especially during the last year, has been confined to her bed. After diligently trying all known methods of treatment without avail, she became importunate for an operation. This I declined until, seeing that she was determined, and out of compassion for her deplorable state, daily growing worse, I finally consented to operate.

On Sunday, November 24th, at 10 A.M., in the presence of, and assisted by, Drs. Kyle, Follet, Rankin, and E. M. Gilliam, I made an incision four inches long through the abdominal walls and introduced the hand. General adhesions existed, and the incision was carried upward and downward from the pubis to two inches above the umbilicus. An attempt was now made to break up adhesions, and by dint of much force and perseverance the tumor was freed anteriorly and to some distance on either side. It became apparent, however, that nothing short of dangerous violence would separate the agglutinated intestines, and the growth was so firmly bound down in the region of the large pelvic vessels that I was compelled to desist from further efforts in this direction.

Now the alternative presented itself of retreating entirely or resorting to a bold expedient which suggested itself at the moment, but which I did not remember ever having seen practised or recommended. Rather than have my patient awake to the appalling consciousness of utter failure I chose the latter, the more readily in that it seemed feasible and not fraught with particular danger. Perceiving that only a thin stratum of fibrous tissue covered the growth anteriorly, I proceeded to work through this to the face of the tumor proper. I now proceeded to enucleate, which I was enabled to do without much difficulty, and finally arrived at the pedicle, which was long and narrow and extended across the fundus uteri flush up to the right ovary. It will be observed that the growth sprang from the fundus, and, although not properly subperitoneal, for the reason that posteriorly it was covered by quite a thickness of muscular tissue, it did not carry the broad ligaments up with it.

At this juncture a bystander inquired how I should deal with the capsule and with the pedicle. I had made up my mind on this score before commencing. Neither the capsule nor the pedicle could be brought into the abdominal walls on account of adhesions, so that they must be dealt with intra-peritoneally. The pedicle was transfixed and tied with silk, but, owing to the proximity of the ovary, this was included and cut away with the tumor. The capsule was now carefully inspected, all

bleeding vessels tied, and oozing tracts transfixed, leaving, after thorough cleansing, a comparatively dry, clean surface In the meantime it had retracted to less than half its original size, due, doubtless, to the muscular elements it contained.

It was now closed by a continuous over and over suture, and the pedicle was whipped in like manner. A small triangular space was left at the junction of the pedicle and the lower angle of the opening in the capsule, which could not be brought together because of the retraction. This left a communication between the cavity of the capsule and that of the peritoneum. It gave me much uneasiness, not so much from fear of infection, for, owing to the retraction of the capsule and thorough internal quilting of the same, there was practically no cavity left, and that was not likely to prove a discharging surface. My fear was that a loop of bowel might find its way into the opening, and become strangulated. The toilet of the peritoneum was now completed and the abdomen closed, a large-sized glass drainage-tube being insinuated as low down as possible. The operation had lasted one hour and forty minutes, and the patient was put to bed with a feeble but normally frequent pulse, and not inordinately depressed. She took the anæsthetic badly, becoming very rigid in the initial stage, and twice during the operation it became necessary to invert her on account of suspended animation. She was now left in charge of Dr. Kyle, her attending physician, and I returned to the city. Daily reports by telephone were encouraging until the fifth day, when I received a message that the patient was vomiting stercoraceous matter, and sinking fast. I suggested that the doctor remove a few stitches and search for the incarcerated bowel in the opening above the pedicle. This he did, but found it clear; and, although the vomiting ceased, the patient continued to sink, and expired on the evening of the sixth day. An autopsy was not had, for the reason that the undertaker had filled the abdominal cavity with salt before the doctor arrived.

Notwithstanding the unfortunate termination of this case, I am persuaded that it was not due to the capsule, and when we consider the celerity with which enucleation can be accomplished and the avoidance of dangers incident to the breaking up of very firm adhesions to important viscera and blood-vessels, it, I think, commends itself as the safer line of practice.

A CASE OF INTERMITTENT FEVER, WITH A SCARLATINA ERUPTION.

Dr. J. E. Thompson, of New York City, reports the following case under the above caption: "In May, 1882, a dispensary patient wanted me to prescribe for her brother, who, she said, had malaria, having a chill, fever, and sweat every other day; the paroxysm beginning in the morning and lasting until 4 or 5 P.M. Two days afterward she called again, asking me to go to her home, as her brother 'was broken out with a rash,' and she was afraid that he had a fever. On calling, two hours afterward, no trace of the eruption could be found, and the boy's skin was perfectly clear; temperature and pulse, about normal; but with offensive perspiration. On close questioning I learned that an eruption always appeared with the chill, growing rapidly worse, and disappearing with the fever.

"I left word that I should be sent for at the commencement of the next chill, which occurred the second day after my visit. I found the patient in bed, complaining of the severe cold; cheeks flushed, and the skin of the chest and arms had the appearance of an eruption, though not well defined. At the commencement of the febrile stage the whole body became scarlet, and the throat was red and angry-looking; strawberry tongue; temperature, 104° F. Had I seen the patient then for the first time, I should have pronounced it scarlatina. With the abatement of the fever the eruption gradually disappeared, and when the sweating stage was at its height the skin was clear.

"I have never seen nor read of a similar instance, although I have seen three cases of intermittent fever with slight eruptions, but not resembling scarlatina. How much the mind had to do with this particular case, I do not know, as the patient, a boy aged fifteen, of a very nervous temperament, had lost a younger sister by scarlet fever a few months before his illness. My theory is, that it was due to a badly nourished body, intensified by a dread of scarlet fever, as the eruption disappeared upon giving the patient proper nourishment and plenty of it before the intermittent fever was cured."

Progress of Medical Science.

Creolin in Diseases of Children.—Dr. Schwinz, of Prague, gives some important details as to the use of creolin in the Czech Foundling Hospital, of which he is director. The affections in which he tried the drug were the following: 1. Ophthalmo-blennorrhœa neonatorum: In ten cases irrigations of a one per cent. solution of creolin were tried; only two mild cases recovered in from four to six days. In the other eight cases the remedy failed, even when used for four or five weeks, so that the usual method (boracic acid with the nitrate of silver) had to be resorted to. It was evident that the irrigations of creolin caused greater pain than the instillation of a from one to two per cent. solution of the nitrate of silver. 2. Thrush and Bendar's aphthæ: In eleven cases in which the use of the chlorate and the permanganate of potassium, as well as boracic acid, etc., had formerly proved futile, washing of the mouth and pharynx with a one per cent. solution of creolin for from five to seven days resulted in complete cure. 3. Omphalitis of newborn children: In all four cases a complete cure was effected in four days by rubbing the navel and the surrounding parts with pure creolin. 4. Erysipelas of the navel: The affected parts were rubbed twice a day with pure creolin. The effect was excellent, and although the application was continued for about six days, in none of the cases did symptoms of poisoning occur. 5. Acute gastro enteritis: In nine cases the drug was used as follows: ℞. Creolini, from two to three drops; cinnamon-water, 80 grammes; syrupus altheæ, 20 grammes. S.: A coffeespoonful every hour. In the case of older children: ℞. Creolini, from 0.5 to 1 gramme; white sugar, elæosacchari fenic, āā 2.5 grammes. M. fiant pulveres Mitte 10. from one to two powders a day. In general the results were very satisfactory, the only untoward symptom observed being vomiting, which occurred in some infants at the breast. 6. Creolin proved very valuable in surgical cases in quite young children in which carbolic acid and sublimate could not be used. A solution of from one-half to one per cent. was quite sufficient for disinfection of the field of operation, the wound, etc. Recovery occurred very rapidly. Neither erythema nor eczema was observed. The author, among other things, mentions the case of an excessively large cephalhæmatoma in a child eight days old, in which healing by first intention occurred within five days after irrigation of the cavity with a little of a one fourth per cent. solution of creolin. — *Vienna Correspondence of the British Medical Journal.*

Dry Operations have been lately advocated by Landerer, of Leipsic, among others. His reasons for rendering operations as dry as possible are not without weight. He points out that the employment of all sorts of antiseptics may be dangerous under certain conditions, and that it is advisable to avoid them as much as possible. The employment of sterilized fluids in large quantities is inconvenient and messy, and there are many advantages in keeping the field of operation quite dry. The essential part in the dry method is, immediately after the first in-

cision, to keep every part of the operation field, not for the moment under the knife, under pressure by means of antiseptic gauze—dry sublimate gauze is what he recommends. By this means the wound can be closed more quickly, as the plugging will have arrested the bleeding, and drainage will frequently be avoided altogether. The suturing then takes place, after which a moderately firm compress is applied. In this way the patient is less messed and cooled, there is less loss of blood, and above all, no germs can enter from the moment the plugging is applied. The bleeding is more quickly arrested, and the duration of the operation is shortened, while at the same time healing is rendered more rapid and certain.—*The Medical Press.*

Renal Dropsy.—Regarding the pathology of renal dropsy, Dr. Auld believes that that condition of the blood to which the term anæmia is applied must be regarded as an important factor in the production of the anasarca and dropsy of Bright's disease. First of all, it is possible in Bright's disease, as in other conditions, that certain retained products of the organism, or their toxic derivatives, may exert a deleterious influence on the tonicity of the vessel walls. Then we have to consider the grave alterations in the vital and physical properties of the blood when anæmia is combined with hydræmic plethora, and the disturbances of the circulation resulting therefrom. By the progressive diminution in its corpuscles, the vital energy of the blood itself is impaired; and by the advancing attenuation of its proteid constituents, the specific gravity of the plasma becomes relatively lighter than that of the corpuscles themselves, and its physical relations to the plasma circulating in the lymph canalicular system outside the vessels are materially disturbed. Under these abnormal conditions the circulation of the blood-corpuscles is impeded, the whole vascular tension becomes increased (Hamilton), and transudation of the fluid within the vessels readily takes place; and such transudation will, moreover, be rendered still greater according to the loss of tonicity of the vessel wall, in whatever way we may consider that condition to be brought about. With increasing anæmia the dropsy becomes augmented, and is regulated in its distribution by physical laws. Where the *vis a fronte* is greatest and the circulation feeblest, there the dropsy will be found most marked; namely, in the extremities furthest from the heart. Here the venules become hyperdistended, and are unable to absorb and transmit the lymph which pours forth excessively from the capillaries. Should this state of matters continue, the circulation will fail nearer and nearer the heart, until the fluid accumulates internally, in the serous cavities, lungs, and other organs, when death is imminent. A most important and valuable contribution to this subject has been published during the year by Dr. Saundby, whose lectures on Bright's disease handle the subjects of albuminuria, uræmia, renal dropsy, and the cardio-vascular changes in an admirable manner. The latest information on these matters will be found set before the reader of these chapters in a terse but very lucid style, while those devoted to the special pathology of the various forms of Bright's disease are enriched by the author's own extensive personal experience. It is a work which will be extensively read and referred to.—*The British Medical Journal.*

Observations on Human Bile.—S. M. Copeman and W. B. Winston have made a series of observations and analyses on bile obtained from a woman who suffered from obstruction of the common bile-duct due to a gall-stone. Mr. Sydney Jones cut down on the gall-bladder, stitched its edges to the wound, and then laid it open. Six or seven ounces of a glairy, semi-transparent fluid, free from biliary coloring matter, was evacuated, which contained leucocytes and a few crenated red corpuscles. Although no gall-stone could then be detected, it was found post mortem close to the junction of the bile-duct with the intestine. The day after the operation bile began to flow, and daily increased after that time. No trace of bile could be found either in the urine or fæces, so that the authors were able to collect the whole of that secreted. They have determined the amount in twenty-four hours for several days, the variation in the flow, and its physical and chemical characters. One of the most curious points noted was the presence of urobilin in the urine, which in this case could not have had its origin in bile-pigment, but must have been a direct metabolite of hæmatin. Calculating from the quantity obtained, it is estimated the normal amount of bile secreted by the liver is about two and a half pints *per diem*. The rate of flow varies according to the time of the ingestion of food, a rise having generally been noted between one and two hours after a meal. The secretion is not a continuous one, the bile being extruded into the gall-bladder by the repeated peristaltic contraction of the bile-ducts. The color of the bile was olive-green, biliverdin and not bilirubin being the pigment present in greatest quantity. Putting side by side the results of the analysis of this bile and of normal human bile, as given by Frerichs, the following is the result:

Constituents.	Present case.	Frerichs.
Sodium glycocholate..... } Sodium taurocholate..... }	0.6280	9.14
Cholesterin, lecithin, and fat	0.0990	1.18
Mucus	0.1725 }	2.98
Pigment	0.0725 }	
Inorganic Salts.....	0.4510	0.78
Total solids.....	1.4230	14.08
Water (by difference).....	98.5770	85.92
	100.0000	100.00

The low percentage of solids, especially of bile-salts, is accounted for in the manner suggested by Schiff and others—that there is normally a circulation of bile going on between the liver and intestine, "a large quantity, at any rate, of the bile-salts which pass into the intestines being reabsorbed and yet again secreted." This idea is supported by the fact that cholalic acid is found only in very small quantities in the fæces. No such circulation could have taken place in the present case. Bile from the gall-bladder is always more concentrated than that from a fistula, probably because a portion of the water is reabsorbed during its sojourn in the gall-bladder. Bile is necessary for the assimilation of fat: the fæces in this case contained much undigested fat. The authors think its purgative action is more than doubtful, and by cultivation experiments they have proved that it is not a true antiseptic. Bacteria grow just as well in the tubes containing bile as in those free from it. The fæces were free from stercobilin, showing that this is formed from bile-pigments in the intestines. The nature of the diet is not, however, described. The original paper is found in volume x. of the *Journal of Physiology*, and the above abstract is published in the *Birmingham Medical Review*. Dr. McMuren has also (*Journal of Physiology*, vol. vi.) described the results of an examination of bile obtained from a biliary fistula, the patient having had cholecystotomy performed upon her for impacted gall-stones by Mr. Lawson Tait. In that case no bilirubin was present, the color of all the specimens being greenish or yellow. The specific gravity was found to be (for the twenty-four hours' bile) 1.0065 (in the present case it ranged from 1.0085 to 1.105), and the total solids amounted to 1.4915 per cent., the water to 98.5085. Moreover, it appeared that the chromogen of a urobilin-like pigment was present, and that the biliverdin also was (partially at least) present as a chromogen.

The Latest Strategy of a Paris Paper for attracting readers is the engagement of two eminent physicians to attend gratuitously upon its annual subscribers. Recently the manager of the paper gave notice to one of the physicians "not to prescribe for B any more; his subscription has expired." The doctor replied: "So also has B."

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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HOSPITAL OUT-PATIENT REFORM.

WHETHER this question is still worthy of discussion, after all that has been said, pro and con, is somewhat dependent upon the spirit in which it is approached. If a question cannot be considered as settled until it is settled rightly, there is yet much to offer. In season, and out of season, we have advocated any and all projects in which there was a justifiable promise of relief, but now, as another year has come and gone, we regret that we cannot see that a single step in advance has been taken.

We have read, with some interest, certain figures published in a recent number of *The Lancet* concerning the state of affairs in Manchester. In that city there is a Provident Society, which co operates with the various institutions in preventing the abuse of medical charity. In 1875 the percentage of applicants for treatment who were found, upon investigation, to be ineligible for gratuitous relief, was over forty-two per cent. Ineligibility consists in the receipt of over a certain amount of wages. All above this are considered able to look after themselves, and are refused hospital treatment. All below are received. Under these restrictive measures the annual percentage of ineligibles had fallen from forty-two in 1875 to thirteen and one-half in 1885. Here in New York our nearest approach to the Provident Society is the Charity Organization Society, which deserves a much more cordial support, from both the profession and the laity, than it has yet received.

But the old dispensaries all flourish like a green bay tree, and new ones spring up on every hand. We have been interested in reading the rules posted in one of the more pretentious ones recently opened in the northwestern part of the city. The medical attendants are forbidden to take pay for their services, to treat any of their private patients there, to "run off" any patients to other institutions, etc., but no allusion whatever is made to the propriety of separating the worthy from the unworthy. A survey of the daily attendance would convince any observer of the advisability of supplying this omission.

Some few years ago a special meeting was held at the Academy to consider this matter. Physicians and laymen both attended it, and the hall rang with philippics against the presuming public, who thus imposed upon medical charity. The characteristically American device of appointing a committee was adopted, and we have yet to learn of any progress in the matter.

We have before outlined what we believed to be a proper and practicable method of alleviation. All dispensary applicants belong in general to two classes. One is so sick at the time of the visit as to require immediate attention. This should be given promptly on simple humanitarian grounds. No red tape of any kind should act as a hindrance. The other class is not so ill but that a delay of treatment for, say twenty-four hours or till the next day, could occur without prejudice to their recovery. In the meantime let them be investigated, and their homes visited. This would be necessary in only a portion of the second class. Such a visitation would require men and means, but it would go to the root of the matter. Even then a co-operation of all our institutions would be necessary to secure definite results. It is a sad fact that our progress in medical science is mated with an equal advance in medical mendicancy.

PRELIMINARY MEDICAL EDUCATION AGAIN.

IN 1878–79, according to the report of the Commissioner of Education, there were 13,321 matriculated medical students in this country, of whom 884 had taken literary or scientific degrees. In 1887–88, the number of students was less by more than two thousand, being 11,172, and the number who held literary or scientific degrees was greater by nearly two hundred, being 1,073. These figures, though not very accurate, and far from what official figures should be, certainly confirm the common observation that more college-trained men enter the profession than was formerly the case.

This is an encouraging sign, and shows the presence of a tendency which we trust will become stronger every year.

A teacher in one of our local medical colleges has stated in *Harper's Young People* that a college education is not necessary or advisable in most cases. It is sufficient, he thinks, that the boy get such an amount of education as would fit him for an ordinary classical college, then, at the age of eighteen, he may enter a medical college, from which he will probably graduate and begin practice three years later.

The *Journal of the American Medical Association*, commenting upon this, takes much the same view which the MEDICAL RECORD has advocated, and which we still regard as far the wisest. It is that every young man who intends to study medicine should make a strenuous effort to secure first a classical education. Since the requirements of the larger colleges are now so severe that he can hardly graduate before he is twenty-two, he will do better in most cases to enter a smaller institution where he can graduate at the age of twenty or twenty-one, and his last year should be so directed as to make it count upon his medical studies. In this way he will gain the intellectual training and social advantages of college life, and still be able to start in his profession by the age of twenty-four or twenty-five.

Parents in deciding about the education of a son have to consider not only how to make him the best "medicine-man" and pill distributor, but also how to make him learned, wise, discreet, self-contained, capable of dealing practically with all kinds of people, and also of enjoying a little of the higher intellectual life. The art of medicine

depends quite as much on knowing how to meet and handle men as on knowing how to prescribe drugs. The worst physicians are those whose minds from early and immature age have been steadily crammed with technical knowledge, until they see nothing except through ophthalmoscopes, or laryngoscopes, or microscopes, and hear nothing except with the ear to the chest.

Medical success is not dependent on college education nor do we mean to discourage at all those who have not been able to secure it. Some do not need it or are even injured by it. But it is a preliminary which it is advisable always to try and obtain. And observation shows that there is an increasing desire to obtain it.

WHEN DOCTORS DISAGREE.

We are in receipt of a pamphlet from Dr. J. J. Chisolm on "Persistent Headaches and How to Cure Them." The general teaching of this contribution to positive therapeutics is that the headache eye is the astigmatic eye, and that the great cure for headaches is to wear correcting glasses. Even slight degrees of astigmatism are considered of great importance, and the utility of frequently prescribing weak cylindrical glasses is extolled.

We are also in receipt of a pamphlet from Dr. J. H. Woodward, on "Eye-strain and Functional Nervous Diseases," in which are reported one hundred and fifty consecutive cases of eye-strain treated for the relief of headache with eighty-five per cent. of cures. In this article much stress is laid upon eye-strain from imperfect action of the ocular muscles, and despite the excellent results obtained one does not gather that astigmatism is at all a dominant factor in the causation of the head pain.

Another writer upon sick headaches asserts that "latent hyperopia" is an extremely common cause, while esophobia and hyperphobia are not rare. In neuralgias Dr. A. L. Ranney finds astigmatism in only twenty per cent. of cases, while some muscular errors were present in nearly every case.

Meanwhile the general practitioner treats most of his cases of headache upon the general principles of relieving blood-taints, digestive disorders, and nervous depression.

SOME COMMENTS ON A POPULAR PILL.

A few years ago a medical writer made some comments upon the inutility, from a physiological standpoint, of belladonna in cases of constipation. In poisoning from large doses of belladonna no diarrhœa or action upon the bowels is produced, while the probabilities are that the intestinal secretions are lessened in amount. Physiological experiments as to the action of belladonna on the muscular coats of the intestines are contradictory, there being very good evidence that the drug produces actual sedation. The idea that when given to man in ordinary medicinal doses it at all lessens the inhibitory action of the splanchnics entirely lacks confirmation.

Dr. Henry M. Field, in a recent issue of *The Therapeutic Gazette*, criticises the composition of the much-used pill, consisting of aloin, gr. $\frac{1}{6}$, extract of belladonna, gr. $\frac{1}{8}$, and strychnine, gr. $\frac{1}{60}$. The aloin is not sufficient, he thinks; on the other hand, the belladonna is too large in amount, since if a patient has to take gr. $\frac{1}{8}$, two or three times in twelve or eighteen hours, he will be likely to get unpleasant physiological effects. The use of the alkaloid strychnia he regards as entirely futile, since strychnia is very insoluble, water hardly affecting it in the ratio of one to five thousand. Dr. Field, therefore, would give of aloin, gr. $\frac{1}{3}$; sulphate of strychnia, gr. $\frac{1}{40}$; extract of belladonna, gr. $\frac{1}{10}$, and he adds of pulv. ipecac, gr. $\frac{1}{2}$. It would appear that in this process of emendation the belladonna might as well be left out altogether; while we fancy that the average New York bowel would be too stormily affected by a third of a grain of aloin. The criticisms above made show at least the harm that comes from the routine prescribing of much-advertised and neatly prepared pills. As a matter of fact, a grain of powdered aloes, with a little rhubarb or ipecac, will usually act quite as well as the compounds given. Dr. Field's caution as to the use of a soluble salt of strychnia, rather than the insoluble alkaloid, is one worth bearing in mind.

THE TREATMENT OF TYPHOID FEVER IN AUSTRALIA.

A great deal of fault has been found with the statistics so numerously produced in support of the cold-bath treatment of typhoid fever. While many of them are undoubtedly worthless, it is impossible to receive them all with scepticism; and there is a growing feeling, even among the most conservative, that the cold-bath treatment of typhoid fever has achieved a high place in therapeutics.

Dr. T. W. E. Hare, of Brisbane, Australia, has recently brought forward statistics which apparently show that the water treatment is efficacious in that part of the world.

The Brandt treatment was introduced into the Brisbane Hospital, January 1, 1887, and has been continued ever since. In this hospital typhoid fever was treated expectantly from 1882 to 1886, with the result of giving a mortality-rate of 14.8 per cent. among 1,828 cases. From January 1, to June 30, 1887, the bath was employed tentatively and imperfectly; and the mortality-rate was 12.3 per cent. among 171 cases. From June 30, 1887, to June 20, 1889, the bath treatment was rigidly applied, with the result of getting a mortality-rate of seven per cent. among 797 cases.

The average mortality-rate under expectant treatment in the Sidney, Melbourne, and Adelaide hospitals in the corresponding years 1887 and 1888, among 2,918 cases, was 13.8 per cent. The baths did not much affect the percentage of hemorrhages and perforations, but lessened the deaths from asthenia, pneumonia, heart-failure, etc.

Dr. Hare thinks that it must be conceded that the introduction of the cold-bath treatment, and the fall in the death-rate, during the last two and a half years, stand to each other as cause and effect. Otherwise it would be necessary to assume:

1. That the type of the disease, which, so far as can be judged by the mortality, had for five years been similar to that in the other colonies and in the old country, suddenly underwent a change at the height of the fever season, in January, 1887.

2. That the change was limited to Brisbane.

3. That the milder form of fever has since persisted; and finally,

4. That the alteration in type was of so selective a nature, that while it greatly lowered the mortality from pyrexial causes, it left the dangers arising from the intestinal lesion practically unaffected.

The United States, and perhaps England, seem to be the only countries in which statistics decidedly favorable to the cold-bath treatment are not to be found.

THE UTILITY OF VACCINATION.

Most of the opposition to vaccination and argument against it has come from ignorant and fanatical people who distorted history and misapplied statistics in order to support their views. There have recently, however, appeared two arguments tending in the main to discredit vaccination, yet made by persons who have apparently investigated the subject carefully and more or less impartially. The authors are Dr. Creighton, who contributed the article on vaccination in the "Encyclopædia Britannica," and Dr. Edgar Cruikshank, who has just published a two-volume work on the "History and Pathology of Vaccination." Both these gentlemen take the view that vaccinia, or cow-pox, has no affinity at all with small-pox; hence, *a priori*, there is no reason why vaccination should have any protective influence.

We do not propose to go into any analysis of the arguments put forth by these gentlemen. It is very certain that *a priori* reasoning will not destroy public confidence in vaccination, while it is utterly impossible, in our opinion, for anyone to study impartially the statistics of vaccination and then deny its utility.

The works of Creighton and Cruikshank, however, are likely to modify our ideas of the pathology of vaccinia.

CONCENTRATED ENEMATA OF EPSOM SALTS.

Some years ago Dr. Mathew Hay made a series of experiments upon the use of concentrated solutions of magnesium sulphate given by the mouth. He found that they rapidly drew water from the blood into the intestines. Thus, the bowels having been well emptied, he gave three-quarters of an ounce of the salt, and in half an hour (the time of greatest concentration) obtained an increase from 5,000,000 to 6,790,000 blood-corpuscles; that is, of 1,790,000 to the cubic millimetre. This increase was not obtained if the alimentary canal was not emptied, or if a diluted solution was used. He attributed the concentration to the action of the salt in depriving the tissues of water.

The experiments of Moreau and Lauder Brunton have also shown that magnesium sulphate has the power of producing copious exudation into the intestines, and that its cathartic action results from this and not from any direct stimulus to peristalsis. Acting upon these observed facts, Dr. T. J. Watkins, of Chicago (*Maryland Medical Journal*), began the use of concentrated solutions of magnesium sulphate in the form of enemata. He employed at first a mixture of two ounces of the sulphate and four ounces of water. For more than a year this solution was used by Dr. Watkins at the Woman's Hospital of the city, and with excellent results. He finds it indicated not only in constipation, but in serious intestinal obstruction when there is much nausea and vomiting; and after laparotomy, when sepsis and peritonitis threaten to develop. In conditions of acute and chronic pelvic inflammation the very great watery depletion caused by the injections produces favorable effects. In obstructive dysmenorrhœa it may also be used.

Dr. Watkins says the advantages of this enema are:

1. Its action is local, producing diffusion.
2. Its action is free and seldom fails.
3. Time of action is short.
4. The bulk is small, causing but very little, if any, discomfort.
5. It is as unirritating as a simple enema. Its certainty of action has become so well recognized in the New York Woman's Hospital that it has been used in nearly all the operative cases as the cathartic preparatory to operation, for the last six months.

The following formula is the one now used:

℞ Magnes. sulph. ..... ℥ ij.
Glycerinæ ..... ℥ j.
Aquæ ..... q. s. ad. ℥ iv.
M.

DEATH BY CHLOROFORM.

The report of the Hyderabad Commission on the *modus operandi* of the lethal dose of chloroform, has given rise to much discussion. We have already given the essential fact apparently established by this Commission, viz., that in death from chloroform the first effect is upon the respiration, the heart ceasing to beat later.

We have received a letter from Dr. H. Culbertson, of Zanesville, O., in which he asserts that this view was clearly established by him in a series of experiments upon dogs and pigs, extending over four years, the results being published in 1861 ("Transactions of the Ohio State Medical Society," 1861, p. 35).

Dr. Culbertson's experiments were fourteen in number, and were apparently conducted with care.

Conclusion one is as follows: "That from the effect of chloroform by inhalation, the lungs will cease to act first, and the heart last."

Conclusion thirteen: "The fact that the lungs cease to act first and the heart last, sometimes one being more congested and again the other, would indicate that these organs are affected through the same channel, and not the heart solely at fault."

Conclusion fourteen is, "That restoration may take place after the heart ceases to beat, by the institution of artificial respiration."

Dr. Culbertson's views are thus seen to have been distinctly and categorically stated, and to have been based upon experimental evidence.

It is not true, however, that the opinion that chloroform kills by paralyzing the heart first, has been uniformly taught. In a number of standard works, it is admitted that respiratory failure often occurs first.

But it is now asserted that this must always be the case when chloroform is carefully administered, and that primary heart failure, if it occurs, is due to shock or some accidental reflex influence.

We take pleasure in placing on record again the experiments and conclusions of Dr. Culbertson, for which he is entitled to great credit.

THE PHYSIOLOGY OF A KNOCK-OUT.

The death of a man in "friendly" contest at sparring with gloves, is something unusual in the history of the manly art. Despite the terrific hitting often done in pugilistic encounters, a fatal accident rarely occurs. It is almost impossible for one man to kill another with his fists, provided the other is in good health and his equal physically. The mortality from pugilism is less than from foot-ball. It often happens in boxing by professionals that a man is knocked "silly," in other words, is knocked down by a blow on the side of the neck, which stuns him. The probability is that this is due to the severe concussion and sudden compression of the soft parts of the neck, including the vagus nerve and the cervical sympathetic. Cardiac inhibition, or arythmia, and some degree of vaso-motor paralysis would naturally result. It was by a blow in this region that death was caused in the exhibition sparring contest above referred to.

News of the Week.

Dr. H. Frey, formerly Professor of Histology in Zurich, is dead.

The National Association of Railway Surgeons holds its annual meeting at Kansas City, May 1, 1890.

Professor Otto Madelung, of Rostock, has been appointed to succeed the late Professor Volkmann.

A Pasteur Institute for New York. We learn that a "Pasteur Institute" has been opened in this city by Dr. Paul Gibert, for the preventive treatment of hydrophobia and the study of contagious diseases. Dr. Gibert will be assisted by Dr. G. Van Schaick and Dr. A. Liautard, consulting veterinarian.

Women Doctors in Asylums.—The Lehigh Medical Society (Pa.) formally endorses the proposition. The letter of "X" in another part of this issue will be read with interest in this connection.

A New Medical College has been organized in Keokuk, Iowa. The building is already purchased and the faculty has appointed itself.

A New Medical Law for Utah.—A new bill has been introduced into the Utah legislature providing for a licensed board of Medical Examiners.

A Medical Defence Union has been formed in Manchester, England, for the purpose of defending its membership from charges of blackmail and malpractice.

The Mount Vernon Hospital, N. Y., has been founded, and subscriptions are now in order.

Quadruplets.—Mrs. Newton, of Scottdale, Pa., has given birth to quadruplets, all girls, and every mother for miles around is slightly jealous.

Death of Dr. Landon C. Rose.—Dr. Landon C. Rose, a prominent physician of La Porte, Ind., died February 5th. He practised continuously in his native town since 1848, after his graduation from the Indiana Medical College.

M. Pasteur is reported to be in bad health.

Union Medical Association of Northeastern Ohio.—At the annual meeting Dr. W. T. Barnes of Akron, O., was elected president for the ensuing year.

Influenza Set to Music.—Composer Moroni, Director of the Opera at Smyrna, and whose name felicitously rhymes with harmony, having recovered from an attack of the grip, has expressed his gratitude to Hygeia in a symphony, the melody clearly indicating the course of the malady, from the sneeze to the physician's bill. We trust that the audience is not made to experience "the tired feeling" during its performance, and that it all ends with a cymbalic jingle of coin in the doctor's wallet.

Want Warm Meals and Clean Sheets.—The house staff of the Eastern District (Brooklyn) Hospital, consisting of Ambulance Surgeon Aldrich and Dr. John T. Gibbons, resigned last week. In handing his badge of office to Secretary Baker of the Board of Health, Dr. Aldrich said that he could no longer put up with the meals and accommodations furnished by the hospital authorities. The meals were served cold and the bedding was unclean. He had complained ineffectually to the managers so often that there was nothing left him except to resign. The matter will be investigated.

An Ophthalmological Society has been founded in Kansas City.

The Late Lewis Hall Sayre, M.D.—At a meeting of the New York County Medical Association, held February 17, 1890, the following minute was adopted: The sadly sudden death of Lewis Hall Sayre enrols another name in the memorable list of those who have nobly laid down their lives in devotion to the duties of our profession. In the very flower of early manhood, the brilliantly promising career opening before him is closed in this world by an act of self-sacrifice as heroic as aught that history tells of warlike prowess. The call to relieve another's suffering found him regardless of his own, and, thinking only of the good deed to be done, he perished in its unselfish doing. No greater meed of praise can earthly chronicle record than that a man so honored his high office as to give his life for it; no better assurance of the Heavenly welcome to a good and faithful servant. This Association, to the expression of its own grief at the loss of an associate whose qualities of heart and mind commanded affection and respect, desires to add its profound sympathy with those who are bereaved of the son, brother, and husband, in whom their love and pride were justly centred. P. Brynberg Porter, M.D.,

Recording Secretary.

The Late Charles S. Wood, M.D.—At a meeting of the New York County Medical Association, held February 17, 1890, the following resolutions were adopted:

Resolved, That by the death of our president, Dr. C. S. Wood, our Association has been deprived of one of its earliest and most valued members; one whose constant presence rendered its labors more efficient, and whose counsel warned against many dangers.

Resolved, That his industry and zeal were always an example to us, his contributions to the work of the Association of a high order; and, further, that his deportment dignified its objects.

Resolved, That in tendering our condolences to his family, we trust that their grief may be tempered with the remembrance of his many excellent traits and abundant virtues. P. Brynberg Porter, M.D.,

Recording Secretary.

A Conference of Medical Colleges.—The medical colleges and schools of Maryland, in conference held in Baltimore, February 7th, issued an appeal to the medical colleges of the United States, asking them to send delegates to the approaching convention of the American Medical Association at Nashville, Tenn., with a view of effecting a reform in the methods of medical institutions in vogue in this country. The following subjects are considered as most likely to come up for discussion: 1. Three years' course of six months' session. 2. Graded curriculum. 3. Written or oral examinations. 4. Preliminary examination in English. 5. Laboratory instructions in chemistry, histology, and pathology.

A Fictitious Charity.—The Superintendent of the Brooklyn Sanitarian Hospital and Dispensary was arrested on the 15th, and has been indicted by the Grand Jury for grand larceny for having obtained a share of the excise moneys of the city, amounting to $1,726.55, for his institution by misrepresentation. The indictment says that there is no such institution as the Brooklyn Sanitarian Hospital, and that an alleged report made by the prisoner of cases treated and medicines furnished the poor was purely fictitious. The Grand Jury's presentment says that the prisoner obtained, during the past four years, for his alleged sanitarium, $9,000 from the city.

Dr. Ichabod Patterson Hoyt, City Coroner of Danville, Va., died on February 17th from pneumonia, aged sixty-seven. Dr. Hoyt was born at Painted Post, near Corning, N. Y., February 22, 1823. He graduated in medicine at Geneva College in 1845. He moved to Virginia in 1860, and entered the Confederate army. He was in late years actively engaged in politics.

Sir Robert Kane, M.D., died on February 16th, in London. He was born in Dublin in 1810, where he received a medical education. In 1847 he was awarded a prize by the Royal Irish Academy for discoveries in chemistry. He afterward became President of the Queen's College of Cork, and in 1880 he was appointed by the Crown a member of the Senate of the Royal University of Ireland. He was also a member of the Board of National Education for Ireland.

The Insane Asylum at Little Rock, Ark., caught fire on February 16th, and a part of the building was destroyed. There was no loss of life.

An Old New York School-Book.—The New York *Times* contains an article upon old text-books used in this city. Among the most curious of these was a volume upon "Physicking," which was probably intended to fulfil for that time the function of the modern "First Aid to Injured" manuals. It was published about 1750. It contains prescriptions for various common diseases, which the student committed to memory for future use. The following have been selected directly from the old book: "Cough," it says, "can be cured in the Begin ning with riding moderately on Horseback, and only taking some Ground Ivy Tea, sweetened with Syrup of Horehound. If it be violent it will be proper to bleed 8 ounces." In case of "fever of any kind, it is always best to blister near the Place wherein the Pain lies and by a good bleeding." "Consumption," says the wise author, "is a Distemper slow and sure. Bleed 2 or 3 ounces every three Days; also apply strong Poultices under the arms in order to draw the Mischief that way. For inward medicines let him chew Sassafras Root. His diet should be an Ambundance of Turnips, Raisins, and Licquorice. His drink should be Strong Beer." "For Griping in the Stomack drink a Gallon of warm Whey, and if possible a gallon of warm Water." "The Dry-Gripes is the cruelest kind of Cholick but are now (blessed be God) grown much rarer than formerly. Take 3 Spoonfuls of Bears' Oil or a Decoction of Peach Leaves. If these remedies should fail, you must needs submit to a Tobacco blister. The best Way to prevent dry-gripes is not to meddle with Rum mixed with sugar or lime juice." The following is given as a sure means of bringing a person out of an epileptic fit: "Burn often under the nose chicken feathers, or else leather or rubber, or even the hoofs of any animal." "After every attack of fever and ague bleed eight ounces and take a purge of Indian physick." Here is consolation for a rheumatic: "Bleed ten ounces from the wrist. Next day take a vomit of Indian physick. After this boil a shin of beef in a gallon of water. Put in a pound of garlick and stew to three pints. Take a quarter of a pint morning and evening for three days, when (by the grace of God) you will find relief." Many of the suggestions above given are, after all, not so far removed from what modern therapeutics teaches.

The Late Sir William Gull was a man who believed in doing well whatever he undertook. One of his favorite quotations was:

> If I was a tailor,
> I'd make it my pride
> The best of all tailors to be:
> If I was a tinker,
> No tinker beside
> Should mend an old kettle like me.

and, later on, he often quoted the more classical words:

> If thou do'st purpose aught within thy power,
> Be sure thou do it, though it be but small.

Gull had a curious fascination over his patients. They always, whether hospital or private patients, believed implicitly in him, and thought his opinion final. He is said to have said that for the first few years his practice increased in geometrical progression. He began to practice at 8 Finsbury Square, and while there did a large practice; and when he moved to the West End his practice at the height of his fame was probably larger than that of any other physician at any period. He never lost any opportunity to cure his patient. A doctor sent him a lady, an habitual opium-eater. She was shown into Gull's room. He at once said to her, "Madam, before you say anything to me, let me tell you you must give up the opium I see you take." She was so impressed by Gull's power of divination that she gave it up at once. His management of nervous and hypochondriacal patients was very excellent, and he gained the confidence of one hypochondriac where no other physician could succeed. The patient, like all of his class, wanted much sympathy for his numerous ailments, and yet would have equally disliked to have been told that he was really ill. The patient went to Gull, and afterward informed us that Gull told him "he was a healthy man out of health." He wanted to know why doctors could not have told him that before.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, January 3, 1890.

GEORGE F. SHRADY, M.D., CHAIRMAN, *pro tem.*

DR. J. WEST ROOSEVELT read a paper on "The Anatomy of the Thorax and Lungs, in Relation to Physical Diagnosis" (see p. 201).

DR. GEORGE L. PEABODY regretted having arrived too late to hear but the latter part of the paper. The portion which he had heard had interested him greatly. Very little could be added to it. The explanation given of the cause of the fluid assuming the position which it did in pleurisy with effusion had interested him especially. He could corroborate the statement that it required an enormous amount of fluid in the chest to cause the diaphragm to arch downward and the intercostal spaces to bulge outward. He had repeatedly found at autopsies very large quantities of fluid, up to a litre or more, without there being any such displacement at all. He thought the element of time had some bearing upon this point. If the fluid had existed for a very considerable length of time in the chest a smaller amount would produce displacement of the diaphragm and bulging of the intercostal spaces than a larger amount would do which had been present but a short time. That meant that constant pressure had, perhaps, a paralyzing influence upon the muscles involved.

DR. BEVERLEY ROBINSON said he made it a rule to verify his diagnosis of pleurisy with effusion, whether septic or acute, by introducing the hypodermic needle. He had been astonished at times not to withdraw fluid with the syringe, while at other times he had obtained fluid where he had hardly expected it. He was, therefore, inclined to think that there must be sources of error in diagnosis which the text-books did not enable us to detect. At times he found the ordinary signs of pleurisy with effusion when no effusion was present. Then, on the other hand, he sometimes found marked thoracic vibrations with considerable effusion, instead of notable diminution of the vibrations, as stated in the text-books. Bulging of the intercostal spaces he had sometimes found present, sometimes he had not observed it. He had tried to follow up his studies, begun some years ago, to determine the character of the effusion, or its presence or absence, by the use of the stethoscope, but he had been unable to differentiate the cases by this means, and had arrived at the conclusion that there were only two signs which would enable one almost invariably to say that there was pleurisy with effusion in large amount. The first was absence of the respiratory sounds over a large area on the affected side, with flatness on percussion. Yet the presence of these signs in a case which he saw recently in consultation led him to make an erroneous diagnosis, the case proving one of rapid pulmonary congestion instead of pleurisy with effusion.

DR. ROOSEVELT thought the fact stated by Dr. Peabody, regarding the influence of fluid long present in the thoracic cavity in destroying the elasticity of the tissues, an important one in accounting for displacement of neighboring organs.

Gastro-Enterostomy for Pyloric Stenosis.—DR. DANA presented, in the absence of Dr. Weir, a man upon whom this gentleman had operated for stenosis of the pylorus, joining the stomach with the intestine below by means of rings of catgut. The patient had gained nine and a half pounds during the four weeks since the operation, and Dr. Dana and Dr. Bull both testified to his marked general improvement and relief from pain, from which he had previously suffered. He now took general hospital diet without any trouble.

The patient had suffered for about four years from symptoms of gastric ulcer and dilatation and pyloric stenosis. He had had great pain, frequent vomiting and constipation. Hydrochloric acid was found in the gastric juice. The diagnosis had been cicatricial pyloric stenosis from gastric ulcer.

Discussion upon the New Epidemic.—Dr. Dana read the following communication from Dr. F. P. Kinnicutt, who was confined to his house by an attack of the influenza:

"In bringing the subject of the present epidemic before the Society I have simply formulated certain propositions, which may serve as a basis for discussion.

"1. A specific, infectious disease is at present epidemic in New York and in a large portion of the United States.

"2. It is certainly identical with the epidemic, influenza, which at present prevails throughout Europe and Great Britain.

"3. The prevailing type of the disease in New York is characterized rather by the absence than the presence of an acute catarrh of the upper air-passages; at least in the onset of the affection.

"4. The disease, as seen in this city, is characterized by a sudden onset, with chills or chilly feeling, preceded at the most by a few hours of general malaise; by more or less frontal headache, not infrequently by nausea and vomiting; by general and severe muscular pains, the lumbar muscles being especially affected; by a rapid rise of temperature, the range in typical cases being between 101° and 105° F., with a pulse of proportionate frequency; the above symptoms accompanied by subjective sensations of great prostration and mental depression. The febrile movement is of short duration, the temperature, as a rule, regaining its normal range at the expiration of twenty-four hours; the muscular pains disappear rather later, the sense of prostration and mental depression continue for a variable length of time. The acute symptoms are very generally followed by a moderate catarrh of the larynx, and particularly of the trachea and larger bronchi.

"5. True relapses occur.

"6. Accompanying the existence of the epidemic there has been a marked increase in the prevalence of acute bronchitis and catarrhal and croupous pneumonia, an increase apparently not to be accounted for by the season of the year alone.

"7. The etiology of the disease is as yet involved in much obscurity. There are strong reasons for disbelieving in its contagiousness."

DR. PEABODY said his experience with the present epidemic had varied somewhat in one or two respects from Dr. Kinnicutt's. He believed no stress had been laid in the paper upon the fact that there was very commonly a great deal of depression going with it, both physical and mental. Some patients became so very blue and despondent that it was quite impossible to cheer them by the thought that they were going to be well in a few days. He had himself felt that way less than a week ago, yet he was able to attend this meeting.

Then it seemed to him not to have been as definitely marked in its points of attack as Dr. Kinnicutt had laid down. He had seen a number of people with all the prodromal symptoms which he had mentioned—the pains and aches, the headache—often nausea and vomiting in children; some would have merely a pharyngitis, and no affection of any other mucous tract at all. Some, after having prodromal symptoms, would have a tracheitis, which became a bronchitis, and if it were neglected this would be likely to become capillary. In hospital practice a number of patients who had had these prodromal symptoms went on to have pneumonia. It had seemed to him that there was not a definite entity, but that there was quite a variety of catarrhal lesions affecting different portions of the respiratory tract, and, in some cases, also the gastro-intestinal tract, and in different individuals with exactly the same prodromal or initial symptoms affecting subsequently different areas of those tracts. It did not seem to him that

it was as definite an entity as seemed to exist in Europe at the present time, but that there was great prevalence of quite a variety of catarrhal lesions and of other acute pulmonary affections. He had had during December more cases of pneumonia and acute pleurisy that ever before during the same month. And there was a greater number of cases of these two diseases in the New York Hospital than was ever known there before during December. There were twenty cases of croupous pneumonia alone at the present time. Regarding the prodromal and initial symptoms, he had had about the same experience which Dr. Kinnicutt had given. But when the disease became more fully pronounced his experience had not been quite as sharply defined.

Dr. Robinson did not recall a case of the so-called *grippe* among the children of the medical ward of St. Luke's Hospital, which was now under his charge. And in the women's ward, which was also under his care, there was not one case of pneumonia. He believed, also, that he had not had a case of acute pleurisy there during this epidemic. Several of the nurses had been attacked by the *grippe*, but only one had come under his immediate observation. According to her statement, she had had no catarrhal symptoms and no fever; but she was very much depressed mentally, and had aching in the bones and in the head, especially the back of the head. But he had been kept on a lively run attending cases in private practice, and must say that, so far as the laryngeal symptoms were concerned, they had impressed him as being spasmodic rather than catarrhal. Ordinary expectorant mixtures had not allayed the cough, nor had the cough been accompanied by catarrhal secretions, which one would expect to see in a catarrhal inflammatory condition of the larynx. He had succeeded in allaying the cough with chlorodyne more frequently than with anything else, and that, we knew, must have acted as an antispasmodic. Its administration might be preceded by that of ipecac or chloride of ammonia. The amount of pain in the limbs and general prostration varied in different individuals; in some being very slight, in others very considerable. There was nausea, sometimes an attack of vomiting, frequently chilly feelings in the beginning. The temperature varied a good deal. In some it scarcely rose at all; usually there was moderate elevation; in a few instances it went as high as 103° or 104° F.—higher than would have been expected in connection with the other symptoms. The affection lasted, as a rule, three or four days, but the patients afterward seemed to feel worse than he would have expected from an ordinary attack of catarrhal bronchitis of apparently like intensity. The community had received the impression that a solution of quinine snuffed up into the nostrils was a good remedy in this affection. Anything but a weak solution, however, was very irritating to the nose and larynx, and should not be used. When he was called to a case and found the patient with pains in the bones, he gave him spiritus mindererus. If there was anything of a bronchial attack he gave a large dose of carbonate of ammonium. This was eliminated through the respiratory passages and mucous membrane of the nose, and thus proved beneficial. He was convinced that no other remedy yet brought to the attention of the medical profession had greater control over a beginning coryza or attack of epidemic influenza. Nor could he see any possible objection to its use, as he could to the use of certain other drugs, like aconite and quinine. Aconite placed the patient in a condition to catch more cold; and large doses of quinine, if they aborted the attack, did so by depressing the heart's action and at the expense of the general system. While he did not believe there was any specific for the disease, yet he thought some remedies were more efficient than others. He had simply mentioned those which he had found most useful—carbonate of ammonium and chlorodyne.

Dr. Roosevelt said that in a number of cases which had come under his observation he had invariably found redness of the throat. This may have been a mere coincidence. The redness was usually confined to the anterior wall, spreading over the tonsils and anterior surface of the velum. It looked very much as if the parts had been touched with a paint-brush and red paint. It usually disappeared within twelve or twenty four hours. In those cases there had been no special catarrhal symptoms of the mucous membranes otherwise.

Dr. V. P. Gibney said that among one hundred and sixty children in the Nursery and Child's Hospital there had not yet been one case of the influenza. He had seen two or three cases in the house staff.

Dr. C. L. Dana's experience coincided almost exactly with Dr. Kinnicutt's. It seemed to him the term "influenza" was not quite appropriate, if by it was meant an infectious trouble in which the nasal passages were prominently involved. Probably half the cases seen by him had very little trouble with the nasal passages. The main symptoms had been fever, chilly sensations, prostration, and pains. His service at Bellevue Hospital last month had given him an experience very much like that of Dr. Peabody's in the New York Hospital. Five days ago there were about twenty-two cases of pneumonia in his ward alone, and during the month there had certainly been a much larger proportion of cases of pneumonia than they had ever before had in Bellevue Hospital.

Dr. Blanc, present by invitation, said he had had a mild form of the disease, and it had attacked the members of the family where he was staying. He himself was accustomed to have attacks of throat trouble, but this time it did not continue as long as usual, probably because it was of a different type.

Dr. Weir said it had not been seen in any of the patients in his wards at the New York Hospital, but he and the house staff had it.

Dr. Shrady said it had prevailed to a considerable extent at St. Francis' Hospital, compelling the postponement of operations for several days in a number of cases. He asked whether any of the gentlemen present had seen death result simply from this disease, and independent of its complications. A negative reply was inferred from their silence.

Dr. Robinson referred to the question of contagion, and expressed the view that the rapid spread of the epidemic could not be accounted for by its being carried by patients or letters.

Dr. Roosevelt said the same scepticism had been expressed in times past regarding the rapid spread of cholera, yet this was now known to be conveyed only by contagion.

The Chairman said this was too broad a subject for discussion on the present occasion.

Herpes Zoster in Children.—A French author states that he has seen twenty-two cases, within the last six years, of herpes zoster in children at the Villette Hospital, the ages of the patients in question varying from eight months to fifteen years. He summarizes his experience as follows: Herpes zoster is rare in children, one case per thousand being the mean ratio and of its occurrence, but it is scarcely less rare in adults. In the new-born infant it is seldom, if ever, seen. In the cases above referred to, fifteen occurred in female children. The left side was affected fifteen times in the twenty-two cases, and the right only seven. Herpes of the face and of the limbs is very uncommon. The disease mostly occurs in the months of May and August. In the majority of cases the herpetic attack is associated with digestive disorder, as dyspepsia, dilatation of the stomach, and enteritis. The disease in children is remarkably benign; it does not relapse nor cause troublesome complications. Its symptoms are transitory, superficial, and purely objective. In adults herpes zoster is often preceded, accompanied, or followed by pain of a neuralgic description; in children, on the other hand, it is absolutely painless when the age is under ten years. The treatment of infantile zona is purely local—some antiseptic covering is all that is necessary.—*Medical Press.*

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 6, 1890.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

Portrait of Dr. Hamilton.—Through the request of its officers the Academy was presented with an oil portrait of Dr. Frank H. Hamilton by the family of the deceased. A vote of thanks was extended the donors.

Discussion on the Prevailing Epidemic, Influenza.—Papers on different features of the epidemic were read by DRS. A. JACOBI (see p. 207), W. H. DRAPER, F. P. KINNICUTT (see p. 209), and RAMON GUITERAS (see p. 210).

Is it Influenza?—DR. F. H. BOSWORTH said he felt a little embarrassment in accepting the President's invitation to discuss this question, for his practice being devoted largely to the treatment of diseases of the air-passages at his office, he must admit that during the winter he had seen nothing which would justify him in the conclusion that we had had an epidemic of influenza. He did believe, however, that there was a general condition prevailing here which added something to colds to cause symptoms somewhat different from those attending ordinary acute tracheitis or rhinitis. A climatic condition had been prevailing which gave rise to what might be termed "break-bone fever," or a form of malarial poisoning, but the term "influenza" seemed scarcely warranted in describing this condition, if judgment were based on the appearance of cases seen in his office practice. The winter had been continuously warm and moist, and most favorable for malarial or "break-bone fever."

As it Affected Neurasthenics.—DR. M. ALLEN STARR said that forty-two per cent. of his patients with nervous diseases had suffered during the past six weeks from the epidemic. They showed many of the symptoms which had been described in the papers read during the evening; but his attention had been directed especially to two features of the nervous symptoms, namely, mental depression and peripheral functional nervous disturbances. Regarding mental depression, it had in many cases amounted almost to melancholia. Two neurasthenic patients confessed to a suicidal desire. Among the serious nervous symptoms it seemed to him this one of mental depression had been prominent. It had shown itself in a number of cases in connection with depression of the heart and alternating slow and fast pulse.

Peripheral Nervous Symptoms.—Among these he had seen a number of neuralgias—supra-orbital, facial, sciatic, ulnar, and musculo-spiral neuralgias. In only one case was there multiple neuritis, three or four nerves on the two sides showing decided neuritis.

It was known that in certain epidemics of infectious diseases there was increased frequency in development of chorea and acute antero polio-myelitis. There had not been an increase in the number of this class of patients at his clinic. The influenza had occurred in five of his patients with locomor ataxia. The pains of this disease were perceptibly worse during the attack of the influenza.

Independent of Climatic Conditions.—DR. JACOBI, replying to Dr. Bosworth, said it was true that such weather as we have had would predispose to catarrh. At times in the past it had been noticed that epidemics of catarrh had prevailed during mild winters. For instance, in 1789, according to Dr. Rush, there was a great deal of catarrh during January, February, and April, which were very mild months. But a large number of the epidemics, as history proved, had not taken place during such mild weather. In Europe, where the present epidemic had started, the winter had been cold. Then the dates of the outbreak of the disease at different places, commencing with St. Petersburg, October 12th, reaching Paris toward the end of November, Brussels the middle of December, and the United States about the end of December, pointed to its distribution by railroad and steamship travel.

DR. KINNICUTT also said that, while it was true the winter in the East had been unusually mild, yet the epidemic had reached Colorado and the West, where the winter was unusually severe.

Is Alcohol Prophylactic?—DR. KITCHEN inquired of the gentlemen what had been their experience with the use of alcohol.

DR. DRAPER said it was well known that alcohol had been largely recommended as a prophylactic against the influenza in Paris. He did not know what had been the result in this direction, but he did know that in patients who gave a history of alcoholism the disease or its complications had proved unusually fatal. He was inclined to think that alcohol, except in very moderate doses, was not prophylactic. He would rather say that by the reaction which followed its excessive use patients would be exposed to the disease who otherwise would escape it.

Its Analogy to other Infectious Fevers.—Dr. Draper had been struck by certain analogies existing between this and other infectious fevers, as cerebro-spinal meningitis and typhoid fever. Perhaps the lesions which were common between it and cerebro-spinal meningitis, such as affected the mucous areas, were in both instances due to the effect of the poison upon the vaso-motor system.

DR. BOSWORTH said: "In my own office practice, treating diseases of the air-passages, we would not have known that there was an epidemic of influenza in existence in New York. That is the only justification which I can offer for my remarks."

The Wicked Microbe not yet Found.—THE PRESIDENT said that during the past week he had observed that attacks of bronchitis had shown a strong tendency to go on and become capillary, and when the inflammation reached the cells next the pleura a pleurisy was likely to develop in that locality. Convalescence was not likely to be established for a period of two or three weeks, and during this time there was a general depression from which it was almost impossible to lift the patient. He had seen tuberculosis follow the capillary bronchitis in but two cases. The pneumonias were usually of the pleuro-pneumonia type. They had inoculated animals with all the varieties of bacilli which they had been able to find in cases of the influenza, but had not succeeded in producing the disease. Nor did he think success would attend such efforts, for the reason that animals seem to have immunity from the influenza.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE MECHANISM OF THE SUSPENSION TREATMENT IN LOCOMOTOR ATAXY—A UNIQUE CASE OF HERNIA—DEATHS OF SIR WILLIAM GULL, MR. JAMES ADAMS, AND DR. THOMPSON PYLE.

LONDON, February 1, 1890.

AT the last meeting of the Medical and Chirurgical Society a discussion took place on Dr. Cagney's paper on "The Mechanism of Suspension in Locomotor Ataxy," read at the preceding meeting of the society. Dr. George Ogilvie said he had performed many suspensions during the past year. He believed that during suspension the cord was relaxed in the dorsal region, and he thought this relaxation allowed the bundles of fibres to separate slightly and thus some adhesions were broken down; also, that this relaxation removed some impediment to the circulation, and so favored the absorption of any adhesions between the bundles of fibres. He did not think the method was of any use in the treatment of the ataxic state, but some of his patients, who were obliged to take morphine before the suspensions, were afterward able to do without it. He thought suspension from the neck was dangerous. Dr. Fletcher Little said he did not agree with Dr. Cagney that suspension from the chin and oc-

ciput was dangerous. Charcot had insisted that two-thirds of the weight must be suspended from the armpits, and only one-third from the head. If these directions were carried out, and the weight of the body very gradually permitted to fall on the head, there was little danger. If locomotor ataxy was a disease affecting the cerebro-spinal system generally, then extension from the armpits was insufficient to produce a beneficial result. Mr. Roughton asked on what grounds the column was said to be elongated during suspension? He did not believe such was the case. Describing his own sensations when suspended, he said that if he were a subject with tabes dorsalis, he should prefer to continue ataxic rather than be treated by the suspension method. Dr. Cagney then replied, and urged that if the cord were benefited by stretching, it was not benefited by relaxation, and *vice versa*. If the symptoms were relieved at all it was by relaxation, and he agreed with Dr. Ogilvie's explanation of the phenomenon. He contended that it was absolutely impossible to stretch the cord in the dorsal region, and no considerable stretching or relaxation was possible in the cervical region; the attempt to do so was unpleasant as well as useless, and he referred to some fatal cases which had been recorded. Professor Horsley had shown, some years ago, that it was not possible to stretch the spinal cord during life by any manipulation. Charcot declined to state that elongation of the cord would be beneficial to ataxic patients, though it was obvious, if his directions were followed, that this was the object aimed at. Dr. Cagney urged that if any benefit resulted from the suspension treatment it was from relaxation, and not from stretching of the cord. The danger and inconvenience of the method might, with care, be reduced to a minimum.

Mr. W. H. Bennett then related a very remarkable case of hernia. A laborer, aged fifty two, was admitted into St. George's Hospital, on October 26th, with symptoms of strangulation in a previously reducible, and apparently old-standing, scrotal hernia. Twenty-four hours before admission he felt burning pain in the scrotum and found the hernia down, though he had experienced none of the ordinary sensations warning him of a sudden descent of the gut. The rupture slowly increased in size, and all attempts at reduction failed. When seen by Mr. Bennett, six hours after admission, the right side of the scrotum was occupied by a pyriform swelling as large as two closed fists, which was clearly a strangulated hernia. Herniotomy was performed, and an oval fluctuating tumor exposed; this had not the appearance of peritoneum, and was suspected to be gut, though no peritoneal sac had been seen. As the hernia was irreducible, in spite of free division of the constricting soft parts, and as a hard mass of doubtful nature was perceptible inside the tumor, the latter was opened and a large quantity of clear fluid (such as often came from a hernial sac) escaped from it. The structure opened was found to be the cæcum, and, projecting into it through the ileo-cæcal valve, was an invaginated piece of gut three inches long. The cæcum was quite free from peritoneal covering, but behind it, and adherent to the testicle, was a piece of omentum lying in a peritoneal sac, which had, presumably, also contained the reducible hernia described by the patient. All attempts to reduce either the intussusception or the hernia failed, and a temporary artificial anus was therefore made, the condition of the patient being too critical to permit of abdominal section being performed. The patient failed to rally, but died from asthenia on the third day. Mr. Bennett remarked on the extreme rarity of extra-peritoneal hernia of the cæcum, and on the small percentage of cases of strangulated hernia of all kinds in which the cæcum was found in the sac.

Mr. Treves opened the discussion on the case, and remarked that the case was unique. The statement that "a hernia of the cæcum had no sac" still existed in many text-books. He had traced it back and found that Scarpa was responsible for its origin. He had himself collected fifteen cases of hernia of the cæcum; in thirteen of these there was a complete sac, and in two so little sac as almost to justify the statement that there was none. He had obtained permission to examine a specimen in St. Bartholomew's Hospital museum, which was described in the catalogue as one of hernia of the cæcum without a sac, and found that there was no cæcum, but that the hernia was of the sigmoid flexure, and that there was a complete sac. He questioned whether Mr. Bennett was right in describing the case as strangulated. These cæcal herniæ were often incarcerated and inflamed. Moreover, the patient walked into the hospital, an unusual proceeding in a patient with a strangulated rupture, though not uncommon with an incarcerated hernia. The association of the intussusception with the hernia was interesting. The presence of the clear watery fluid was explained by the acuteness of the ileo-colic form of intussusception, and was due to early œdema of the convex side of the intussusception, so that fluid would escape directly the bowel wall was incised. Mr. Hulke referred to the popular belief that a herniated cæcum had no sac, and allowed that cases with this condition were rarely met with. Mr. Barwell remarked on the frequency with which intussusception and hernia were associated. Mr. Bennett then replied. He considered the hernia was strangulated, not so much from the actual symptoms, though the man had been vomiting for twelve hours, as from the fact that after opening the cæcum he could not pass his finger up the colon on account of the constriction. The patient's being able to walk into the hospital did not negative strangulation, for he had recently operated on a man who walked into the hospital, and who had fæces in the sac of a strangulated hernia; the rent was sewn up with a Lembert suture and the patient recovered. He accepted Mr. Treves' account of the origin of the watery fluid.

By the death of Sir William Gull—which occurred on Wednesday last—British medicine loses one of its most representative men and most worthy exponents. Even his enemies—and, unfortunately, he made several of late years—must admit that Sir William Gull stood in the first rank as a scientific physician and clinical teacher. Originally connected with Guy's Hospital in some humble lay capacity, he afterward entered there as a medical student, and soon distinguished himself. He graduated with honors at the University of London. In 1848 he was elected a Fellow of the Royal College of Physicians, and in 1851 (being then thirty-five years of age) was appointed Assistant Physician to Guy's Hospital. His rise to fame and wealth was rapid. His numerous papers on scientific medicine in various branches, combined with his skill as a clinical teacher, soon gained him a great reputation, and his success in private practice was phenomenal, being, indeed, only rivalled by that of Sir Andrew Clark some years later. His attendance on the Prince of Wales, during the latter's serious attack of typhoid fever in 1871, was the means of bringing Gull (then only Dr. Gull) still more prominently before the public. He was created a baronet on the Prince's recovery, and also appointed one of the physicians in-ordinary to the Prince of Wales, and one of the physicians extraordinary to the Queen. On two memorable occasions Sir William Gull incurred considerable professional odium by his conduct toward other practitioners, and on one occasion a colleague brought his conduct before the Censors Board of the College of Physicians. In spite, however, of these incidents, Sir William Gull's popularity as a physician continued, and he still had more patients than he could see until his retirement from practice two years ago, in consequence of illness. But for his health, there can be little doubt that he would have been run as a candidate for the presidency of the College of Physicians at the last vacancy. In spite of his failings, there will be but few who will not acknowledge that his death leaves a gap not easily filled.

I have also to record the death of Mr. James Adams and of Dr. Pyle. The former died at the comparatively

early age of forty-five. He was formerly surgeon to the London Hospital (as was his father before him, who was familiarly known as "Jack" Adams), and attained distinction not only in general surgery but in ophthalmology. He was perhaps the most skilful operator on the staff of a hospital long renowned for its surgeons. While, however, success in his profession seemed just within his grasp, he was attacked with an ocular affection which soon caused irrevocable blindness in both eyes. He retired from practice in consequence of this affliction. Lately he suffered from cerebral symptoms, and died from coma on Sunday last.

I must also briefly chronicle the decease of Dr. Thompson Pyle, who practised for many years as a physician in Sunderland. He was a member of the Senate of the University of Durham, and for five years its representative on the General Medical Council.

MASSAGE, MARRIAGE OR, WHAT?

To the Editor of the Medical Record

Sir: A woman wants to protest against the importance attached to congestion of the mammary gland by Dr. Fowler, in a recent issue of your paper. Of course a woman has congested milk-glands, and, of course, she has a congested uterus and ovaries at times, and, of course, these several congestions can be relieved by menstruation, for instance, and in other ways. To assume that orgasm will dissipate these congestions, there is surely nothing new about that. To artificially induce orgasm for their relief is, however, playing with fire. Can you imagine that the cure will be permanent in the case of any of the hysterical girls to whom the doctor has referred? And if not, what then? Must the doctor be called in again and again for the relief of the mysterious symptoms? And must the girl degenerate into that most despicable creature—the woman who cannot live without her physician? A sentiment of respect, even in Dr. Fowler's mind, must follow the girl who would not have her "lump" treated.

So long as pelvic massage was confined to cases of pathological alterations in structure and function, we listened in patience, but when it comes to be applied for the relief of a physiological congestion, and applied to innocent, ignorant young girls, it is time to call for a halt. The practice then assumes a plane not perceptibly different from that of the masseuse who cures nervous disorders in men by similar means.

If you asked me what do women do with these cases, I would tell you that we first explain to the girl herself the character of her ailment. We disabuse her mind of the idea that there is anything wrong or immoral about the condition, but tell her that, on the contrary, it is a normal expression of her womanhood. We tell her further that it is a temporary condition; that, at the worst, it will pass over in a little time, and we tell her of various means by which it may be dissipated or avoided. One of these is physical exercise. An exhaustive gymnastic course might be prescribed. The Swedish movements for the relief of pelvic congestion are worth some study in this connection. Mental work is another great prophylactic against undue sexual irritability. Let her enter some competitive examination, take lectures at the Barnard, or some special course of instruction Cheerful companionship should be in all this insisted upon. Among working-girls persistent eroticism is so rare as to almost invariably indicate an unsound mind, which is, of course, the ordinary tendency of these cases.

The question of women physicians in asylums follows this same line of argument. The demented woman is highly erotic as a rule. To supply women for her immediate attendants is simply to diminish the disturbing influences likely to increase her mental instability. The necessity is not for a woman's attentions for gynecological treatment alone, but for all that presupposes close proximity in these cases. Wishing that men and women could understand each other a little better,

I am, respectfully yours, X.

FORCED RESPIRATION.

To the Editor of the Medical Record.

Sir: I have read with interest Dr. Vanderburg's article on "Forced Respiration," in your number of February 8th.

In my last two cases reported to the New York State Medical Association, and published in its "Transactions," it was demonstrated that forced respiration could be kept up through a mask covering the mouth and nose.

The last patient whose life I saved owes it to the application of air throught the buccal cavity. Tracheotomy was afterward performed, as it was evident that the respiration would have to be kept up for some considerable time. It was after eleven and one-half hours of forced respiration that the patient could be left to breathe for himself. Two ounces of laudanum had been taken and all retained.

As the doctor hints. the evolution of forced respiration since my first operation, the saving of five human lives which would have been sacrificed without it, means almost a revolution in our methods of artificial respiration.

To the apparatus which I originally devised and have used in operations, I had a rubber mask supplied before being aware of the work of Dr. Vanderburg. It is thus applicable to the operation with or without tracheotomy. This I am inclined to consider important, as I believe cases may be saved with tracheotomy which would be lost without it. Time alone will determine this positively. Up to the present time, counting the two cases reported by Dr. Vanderburg, eight lives have been saved. The operation has come to stay, and it has promise of a great future. George E. Fell, M.D.

Buffalo, N. Y., February 13, 1890.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 9 to February 15, 1890.

Taylor, B. D., Captain and Assistant Surgeon. Leave of absence is granted for fifteen days, to take effect on the 15th proximo. S. O. 17, par. 2, Headquarters Department of the Missouri, February 7, 1890.

Alexander, Charles, Lieutenant-Colonel and Surgeon. By direction of the Secretary of War is relieved from duty as examiner of recruits in New York City, and will report to the commanding general, Division of the Atlantic. for duty as attending surgeon in that city. Par. 1, S. O. 33, A. G. O., Washington, February 8, 1890.

McElderoy, Henry, Major and Surgeon. By direction of the Secretary of War is relieved from duty at Fort Wayne, Mich., and will report to the Superintendent of the U. S. Military Academy, West Point, N. Y., for duty as post surgeon, relieving Major Henry R. Tilton, Surgeon, who, after being thus relieved, will report in person to the commanding officer, Fort Wayne, Mich., for duty at that station. Par. 13, S. O. 33, A. G. O., Washington, February 8, 1890.

Loring, Leonard Y., Major and Surgeon. By direction of the Secretary of War the extension of leave of absence, on surgeon's certificate of disability, granted in S. O. 268, November 16, 1889, from this office, is still further extended two months on surgeon's certificate of disability. Par. 7, S. O. 34, A. G. O., Washington, February 10, 1890.

Tilton, Henry R., Major and Surgeon. By direction of the Secretary of War, leave of absence for two months is granted, to take effect upon his being relieved from duty at the U. S. States Military Academy, West Point, N. Y. Par. 6, S. O. 34, A. G. O., Washington, D. C., February 10, 1890.

SMITH, ANDREW K., Colonel and Surgeon. By direction of the Secretary of War the retirement from active service, on February 9, 1890, by operation of law, under the provisions of the act of Congress, approved June 30, 1882, is announced. Colonel Smith will proceed to his home. Par. 5, S. O. 34, A. G. O., Washington, D. C., February 10, 1890.

CRAMPTON, LOUIS W., Captain and Assistant Surgeon. By direction of the President is detailed as a member of the Army Retiring Board at Chicago, Ill., convened by War Department order, dated November 18, 1889, published in S. O. 269, November 18, 1889, from Headquarters of the Army, *vice* Major Henry McElderoy, hereby relieved. Par. 9, S. O. 36, A. G. O., February 12, 1890.

SMITH, G. A., Lieutenant-Colonel and Surgeon. Leave of absence is granted for twenty days, to take effect about February 10th. S. O. 15, par. 4, Headquarters Department of Arizona, February 8, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending February 15, 1890.

BATES, N. L., Medical Director. Ordered to Naval Hospital, Mare Island, Cal.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 15, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	19	6
Scarlet fever	72	11
Cerebro-spinal meningitis	0	0
Measles	77	6
Diphtheria	103	30
Small-pox	0	0
Varicella	7	0
Cholera	0	0

Indiscriminate Sales of Poisons.—At a meeting of the Trade Association of Philadelphia Druggists, February 10th, a discussion of the sale of articles of a poisonous character was introduced by E. T. Ellis. There was a general expression of opinion condemning the indiscriminate sales of all such drugs, but it was said that the sentiment of many druggists outside of the Association was different. The State Pharmacy Act, it was said, provides that an article sold without a prescription must be safe in sixty-grain doses, but during the late epidemic antipyrine was sold almost as freely as quinine. Dr. Jamison suggested that a large number of deaths might have been caused by the free use of this drug from its heart-depressing qualities. The secretary, W. L. Turner, said he would not sell "Rough on Rats," an article nearly pure arsenic, without registering the purchaser.

Society of the Alumni of Charity Hospital.—At the meeting of the Society of the Alumni of Charity Hospital, held at Clark's on the evening of February 11th, Dr. R. W. Taylor read a paper, "History of a Case of Syphilis Fourteen Years after the Onset of Cerebral Symptoms, with Remarks on Subacute Specific Meningitis and its Treatment;" presentation of the case. Dr. W. L. Baner read a paper entitled "A Contribution to the Question of Inhalation." The discussion of both papers was animated, and was participated in by Drs. Beverley Robinson, D. Bryson Delavan, J. B. Bissell, W. L. Carr, George Thomas Jackson, and others.

A Novel Case of Maternal Impression.—Dr. W. J. Middleton, of Steelton, Pa., writes: "Apropos of the frequent mention of the matter of maternal impressions in your journal, let me report a case. "Mrs. R——, aged twenty-four, married a year and a half, was delivered of her first child, a son, November 20, 1889. Labor natural, child well formed in every respect, except that the foreskin of his penis lies in redundant folds, retracted upon and behind the corona glandis, leaving the glans exposed in all but its upper one-fifth. The mucous surface shortened to the said upper one-fifth is neither too tight nor adherent, but is easily retracted so as to uncover the balance of the glans. The foreskin is sufficient to cover the whole glans when pulled down, but let go, at once retracts. The husband, R——, consulted me June 17th, and at various times to July 15th, for an obstinate herpes præputialis, which worried him very much. Wife says that she several times observed him with retracted foreskin dressing his penis, and shared in his anxiety. She was then between four and five months gone."

More about Bromine in Diphtheria.—Dr. E. T. Strong, of Elizabethtown, N. Y., writes: "Dr. Middleton Goldsmith published an article in a Rutland, Vt., paper, in 1879, advising the use of bromine as a preventive of diphtheria, stating that there would be no new case of diphtheria where it was used as he directed. He directed that a solution be made in water, with the aid of potassium bromide, and a little put in a saucer of water and renewed often enough to keep the room smelling of it. Believing that any statement of the kind by him was worth considering, I tried it, and have used it ever since, in addition to the treatment advocated by Dr. Billington in the RECORD a few years ago. My cases have been neither numerous nor severe enough to make a thorough test; but, so far, my experience confirms Dr. Goldsmith's assertion, that no new case would develop where the bromine was used. In the last case I attended before using bromine, all the children of the two families in the house were attacked. In one of my latest the infection was brought from a relative's, where all the children died; but although in this case the other children were in the room with the patient, no one took the disease. I have used it in typhoid, scarlatina, bowel troubles, and other diseases, with gratifying success. I have thought that it had a favorable effect on the course of the disease. In Dr. Howard's case of thapsia poisoning (RECORD of January 25th) it is evident that the thapsia was left on too long. I direct the patients to apply the plaster on retiring, and to remove it in the morning, cautioning them that if left longer it will cause severe discomfort. I should expect severe symptoms from a good plaster left on twenty-four hours, in a susceptible patient."

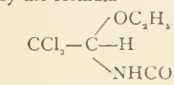
Consultants and Consultations.—In the course of a recent address, Dr. T. C. Allbutt makes the following remarks on this subject (*The British Medical Journal*): "You will find that, both in respect of competition and of consultation, the elements of mistrust are not inactive. The temptation to score off another man's openings seems to some persons irresistible, in spite of the certain turn of the wheel against themselves another day. Perhaps they hope to win on the average. How mean it is! How mean even between rivals! But for a consultant to act thus by word, or even by look or gesture, is cowardly and base indeed. At the moment the consultant has enormous power, and should therefore err on the side of generosity, especially in the absence of his brother practitioner. And yet who does not know the raised eyebrow, the shrug, the 'I-could-an-I-would' air of the fashionable consultant, as he listens condescendingly to the patient's report of his own doctor's opinions. *Salus ægrotantis suprema lex*, the patient's safety is before all else; that must be clearly posited; but his safety rarely comes even into pretence. The occasions are very rare in which the safety of the patient involves a breach of consent between his doctors. In my experience a family attendant is always very glad to try any plan of treatment which seems reasonable, and it is the duty of the consult-

ant, where treatment is manifestly changed, to speak of the change, not as dictated by himself, but as the result of a joint consultation. In most cases he can truthfully add that a change would not have been made unless the previous treatment had been well tried in vain. Changes of diagnosis, except in case of grave error, can usually be developed gradually, so that sudden declarations of change of opinion are avoided. But the public may say, Is this reticence fair to us? Certainly, if the patient's interests be safeguarded—that is, if the doctor in charge be not an ignorant fool or a shifty knave, and in these cases the consultant must, by letter or visit, keep a sharp eye on the progress of the case—the reticence is not only harmless to the patient, but of the greatest value to him. Nothing does a sick man more harm than to have his confidence shaken in his doctor, and to chop horses in midstream is rarely desirable. Even where a difference between two medical men is irreconcilable—and such cases have occurred to me from time to time—the difference can be amicably arranged. In thirty years I never had to supplant my brother on this account. The family doctor must be charged with the duty of setting forth the difference to some sensible friend of the patient, and in my experience this has always been done most conscientiously. Such cases are usually obscure and difficult, and it becomes the consultant in his turn to point this out, and to express a willingness to call in a third physician to aid in the decision. If all parties are straight and unselfish, these difficulties are readily adjusted. Indeed, with seasoned practitioners, consultations are always smooth, and nearly always welcome on both sides. It is you, touchy young men, just out of the schools, who give us the trouble—who bridle up at the suggestion of a consultation, and declare that nothing more can be done. An older man knows that a good talk over a case is, at any rate, a pleasant meeting, and probably valuable to him at least in bringing about an orderly revision of the symptoms and in refreshing the confidence of his patient. He knows, too, that when a doctor is sick himself, he calls out for a consultation sooner than a layman does, and runs from one doctor to another in defiance of all convention. I never knew a sick doctor who failed to consult at least three London physicians in a forenoon, usually concealing from each his visit to the others. The fact is life is dear not to doctors only; to me it is marvellous, not that patients slip off to consultants, but that, with the fear of death before them, they are so loyal to their own advisers. Always, then, welcome consultations. Anticipate, if possible, the patient's wishes in the matter, or, at any rate, the wishes of his friends. Never repeat the silly boast, 'My patient has such confidence in me he does not want a consultation.' I used in secret to hear rather too often the other side of that story, and if the patient should not want it you ought to want it. The public is right in regarding a consultation as at least a tribute to the sacredness of human life, and it keeps doctors up to the mark."

A Museum for the Illustration of Human Passion.—A new departure in museums is announced from Florence, where a "Psychological Museum," for the collection and display of "all documents serving to illustrate human passions," has been established by ministerial decree. Professor Mantegazza is to be the director of the new institution, and courses of instruction are to be given there on "experimental psychology."

Pyocyanine.—This name has been given to a crystallizable chemical compound of organic origin, first isolated by Fordos. It is the leucomaine furnished by a special variety of micro-organism, the *bacillus pyocyanicus*, one effect of its presence in pus being to give a peculiar and characteristic blue color. This bacillus is not productive of ill effects in man, but, curiously enough, it is promptly fatal to the rabbit. The pyocyanic malady is thus an ideal one for purposes of study, furnishing, as it does, an organism easy to cultivate, an animal in which it gives rise to a well-marked group of symptoms, and a chemical compound produced by the organism which can be isolated and acts upon the animal. It was after long and painstaking researches in this direction that M. Charrin was led to suggest that the pathogenic effect of microbes is primarily due to the poisonous substances excreted by them, and further, that these soluble poisons were, under certain circumstances, the best prophylactic for the disease to which the particular bacillus gives rise. Immunity from a specific disease may thus be conferred in at least two ways—1, by introducing into the tissues an attenuated microbe, or, 2, by introducing a certain proportion of the diluted soluble toxic agent secreted by them. The fact that it is possible to confer a degree of immunity independently of the bacillus itself, disposes of the general application of the phagocytosis theory promulgated by Metchnikoff, in virtue of which the leucocytes of one tissue were supposed to become trained, as it were, to the battle against the invading host on the principle of the well-known all-round antidote of Mithridates. As M. Charrin points out in his monograph on the subject, this immunity is due rather to increased powers of resistance to the influence of toxic agents. This useful bacillus has also enabled Messrs. Bouchard and Charrin to carry out some very instructive investigations into what is known as "mixed infection," and they have succeeded in demonstrating that the combined effects of the injection of more than one variety of pathogenic micro-organisms are lessened in proportion to the secretion by the bacillus of substances prejudicial to the bacterium and the exhaustion of the pabulum by the bacillus at the expense of the bacterium. The attentive study of this one bacillus has opened up possibilities in the embryonic science of bacterio-therapy which subsequent researches will in all probability show to be possessed of an importance in the prophylaxy of disease that the scientific mind cannot compass, and can at present only foreshadow.—*The Medical Press.*

Somnal.—The last new hypnotic has been named "somnal" by Radlauer (*Journal de Médecine*, October 20, 1889). It has a formula of $C_7H_{16}Cl_2O_2N$, and is a mixture of alcohol, chloral, and urethan. It has been used in doses of thirty grains, in the form of a solution, sweetened with syrup. It is claimed to exercise no unfavorable action upon the pulse, respiration, or temperature, and by the author is stated to possess the properties of chloral and urethan without possessing their after-effects. It is stated to be unaltered by acids or silver nitrate. It has been claimed by Lutze (*Pharmaceutische Zeitung*, October 26, 1889) that the term "ethylized chloral-urethan" is simply a blind, and that the so-called new product is nothing more than chloral-urethan, or ural, under a new name. This statement has, however, evoked a denial from Radlauer (*Pharm. Journ and Trans.*, November 2, 1889), who affirms that "somnal" is a product of the direct combination of chloral alcoholate and urethan in a vacuum apparatus, and that its composition is correctly represented by the formula—



As to whether it is any better than the other hypnotics remains to be seen.—*The Therapeutic Gazette.*

The Increase of Venereal Disease in Italy.—In view of the spread of venereal disease in Italy since the repeal of the regulations formerly in force, the Minister of the Interior has appointed a commission to investigate the subject, and suggest measures for the repression of prostitution and syphilis.

The Use of Salol in Producing Antisepsis of the Urinary Passages.—At a recent meeting of the Société Médicale des Hôpitaux, M. Dreyfous discussed the question of rendering the urinary passages antiseptic by means of

internal medication, instancing the good effects he had obtained from the use of salol in many cases of blennorrhœa. Salol, or salicylate of phenol, when it comes in contact with the pancreatic juice, is separated into carbolic acid and salicylic acid, both of which are eliminated by the kidneys, the first as phenyl-sulphate of soda, and the second without change. These facts have been established by Nencki, Lepine, and Sahli. By administering salol, therefore, we may produce a stream of aseptic urine, which washes the mucous lining of the kidneys, bladder, and urethra, thus establishing the antisepsis of these surfaces much more thoroughly than can be done by the use of injections from without. Sahli has shown that the urine of persons who are taking salol is antiseptic, and also that the salol is well borne, even in large doses. This remedy would seem to fulfil all the conditions that Bouchard, in his studies of the therapeutics of infectious diseases, has put down as necessary for the antisepsis of this special series of organs. It has the advantage of being only slightly soluble, and so non-toxic; it is not a general antiseptic, an antithermic, or intestinal antiseptic, but seems to reserve its action for the urinary passages, and its adaptability for this special end is comparable with the action of naphthol in intestinal antisepsis. M. Dreyfous has administered the salol, alone or in combination with balsams, in seven cases of blennorrhagia, the dose varying from five to eight grains. The discharge increased rapidly in each instance, and in one case which had lasted for four days the cure was complete in three days. The good results seem to be attributable to the fact that the salol renders the urine aseptic, and probably antiseptic. Certain cases, in which the salol was administered alone, proved that the good result was due to it, and not to the balsams, although the speaker preferred to give it with copaiba or cubebs, in order to hasten the cure. If this effect of the drug shall be well established, it will commend itself to the surgeon in those cases where it is desired to render the urine aseptic before an operation upon the genito-urinary tract. In reply to M. Chantemesse, who asked to which of the products of the decomposition of salol the antiseptic action was attributable, M. Dreyfous said that the antiseptic power of phenyl-sulphate of soda, that being the form in which the phenic acid is eliminated, is not yet proven, while we know that the other product, the salicylic acid, is certainly antiseptic. The latter would cause serious disturbance of the digestive tract if administered in quantities as large as can be obtained after the ingestion of salol.—*The American Journal of the Medical Sciences*, February, 1890.

On Guard for Typhus Fever.—Nine cases of typhus fever have occurred in this city since December 24, 1889. All but two received the contagium of the disease abroad. Two developed it from contagium received from infected material brought to this city from Antwerp. While the Health Department of the City of New York believes that it has all persons who have been in contact with the cases that have occurred here under observation, it nevertheless behooves physicians practising among the class of people with whom emigrants are likely to be found, to be on their guard against typhus fever.

Cholecystenterostomy.—At a recent meeting of the Royal Medical and Chirurgical Society Mr. Mayo Robson, of Leeds, communicated a paper on a case of this kind occurring in a woman who had been operated on by abdominal section for right pyosalpinx in 1887 (*Medical Press*). Nine months later, the patient having meantime enjoyed good health, acute peritonitis set in, and laparotomy was resorted to for evacuation of pus accumulated in the gall-bladder. The latter viscus was stitched to the side, a biliary fistula remaining, from which, during seventeen months, bile constantly escaped, rendering existence a misery. At the end of this time the abdomen was opened through the old laparotomy cicatrix, and the gall-bladder fixed to the hepatic flexure of the colon by a double row of chromicized sutures, free communication between the two viscera being established, and the old biliary fistula closed. Healing by granulation ensued, and after a few weeks the motions became normal.

The Mydriatic Alkaloids.—Merck's recent researches on the solanaceous alkaloids tend rather to show a wider difference between their chemical and physiological properties than has hitherto been believed to exist. It is a well-determined fact that atropine not only frequently gives rise to a severe conjunctivitis, but also quite suddenly a severe toxic effect follows its use. Duboisine and daturine act much like atropine, even more energetically, but on the whole are less liable to induce unpleasant symptoms. Hyoscyamine more closely resembles atropine in its action, although it is less toxic; but it is a decided hypnotic when administered in minute doses. On the other hand, hyoscine induces atropine effects, and is more rapid in its action, but its administration is not attended by the toxic symptoms of atropine, and it is hypnotic. Homatropine paralyzes accommodation as atropine does, but its effects are of much shorter duration, which is a decided advantage in many respects.—*Medical Press.*

Rupture of Uterus—Extraction of Fœtus Six Weeks Later.—Dr. St. Braun, of Cracow, describes the following case: A woman, thirty-eight years of age, the mother of nine children, the youngest three years old, became pregnant. The fœtal movements ceased for six weeks, and for two weeks before admission into hospital fetid pus discharged from the vagina and umbilicus. There was much debility, but no collapse nor hemorrhage. A weight seemed to roll about in the abdomen when the patient moved. Diagnosis was very difficult; circumscribed peritonitis, or extra-uterine pregnancy with suppuration of the sac and discharge through the navel and vagina was suspected. Abdominal section was performed, and a well-developed, macerated fœtus, covered with pus, was discovered free in the peritoneal cavity. The patient lived some time, but ultimately sank from exhaustion. Spontaneous rupture of the uterus had taken place from some unknown cause during the second half of pregnancy. The fœtus had escaped into the peritoneal cavity, died, and set up suppurative peritonitis. At the necropsy it was found that one intra-peritoneal abscess had burst through the umbilicus, the other had entered the fœtal membranes, caused suppuration of the placenta and discharge of pus into the cervix and vagina. The bladder and renal pelves had become inflamed. The latter complication is in itself sufficient to account for death. Had it not occurred, the recovery of the patient would have been highly probable.—*The British Medical Journal.*

Anthrax Cured by Subcutaneous Injection of Corrosive Sublimate.—A large malignant pustule was situated on the back of the hand of a man who had been engaged in removing the hides of cows, having a superficial graze on the back of his hand. The index-finger was of double its normal size; two extensive vesicles, filled with dark serum, included the dorsal aspect of the first and second phalanx; lymphatic inflammation extended from the hand up the forearm on the radial side. Six subcutaneous injections, with a four-thousandth solution of sublimate, with the view of forming a protection against the encroachment of the bacteria. It was not without some resistance on the part of the patient, in consequence of the intensity of the pain occasioned by them, that these injections were repeated during eight days. Besides the injections the hand was kept in a warm bath of sublimate solution during the daytime, and at night was covered with a cataplasm of chopped walnut leaves, moistened with the sublimate solution. This treatment was continued for six days longer, and terminated in cure of the gangrene. Cicatrization was complete in fifteen days.—*L'Union Médicale.*

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Original Articles.

RUPTURE OF THE BLADDER: A CASE WITH MISTAKE IN DIAGNOSIS.

BY JOSEPH D. BRYANT, M.D.,

NEW YORK.

BELIEVING that errors of judgment, though they be the results of careful consideration, and also that illy-considered conclusions, hastily formed, teach us more than our successes, I will present to your attention the narrative of a case which was to me most interesting and instructive, and leave it for you to decide to which of the two classes just mentioned it more properly belongs.

A. D——, aged twenty-nine, cart driver, temperate, admitted to Bellevue Hospital, April 12, 1887. Thirty-six hours before admission, the patient fell from a cart loaded with coals (while in motion) which he was driving. He fell in front of the left wheel of the cart, which came in contact with the outer surface of the crest of the left ilium while he was lying on the street, and his body was pushed along the paved street in front of the wheel, so he persistently maintained. At all events, he was sure that the wheel did not pass onto or across any part of the pelvis. The patient had never sustained an injury before of any part of the body, nor had he suffered from any previous illness. He had never had any form of venereal disease. All of the functions of the body had previously been performed with unvarying perfection, so far as he could judge. He was positive that he had emptied his bladder completely and without difficulty an hour and a half before the fall. He said that he had passed no urine for thirty-six hours before admission, and that one or two ineffectual attempts to draw it had been made during that time.

On Admission: General physical condition good; abdomen much distended in the hypogastric and lower part of the umbilical regions; no general tympanites; pain and tenderness on moderate pressure in the hypogastric region; temperature (buccal) 98½°; respiration and pulse presented nothing unusual; no nausea or vomiting; no evidence of infiltration of any part of the abdominal walls or perineum. The patient made no complaint except of distention; said he felt well otherwise. When examined he was lying on the back, with the lower limbs extended and placed parallel with each other. At the outer surface of the left ilium, there was an extensive and deep ecchymosis, which extended upward nearly to the last rib, and forward on the abdomen about two or three inches in front of the anterior superior spine of the ilium. The ecchymosis had been caused by the force of the cart-wheel, so the patient said. He thought so because the wheel "hit" him in this situation.

The pelvic bones were not broken, nor were their connections loosened. Immediately after admission, Dr. Houghton, the house surgeon, drew off about two ounces of high-colored urine with a medium-sized gum catheter. He experienced no difficulty with the introduction of the instrument. As soon as I arrived at the hospital the patient was placed at once on the operating-table, and the necessary arrangements made to secure a more careful examination; this to be followed by a laparotomy, if rupture of the bladder were thought to have taken place, as suspected by Dr. Wallace, the physician who sent him to the hospital. The prominence of the median line of the abdomen had an oval outline, and was dull on percussion, even up to the umbilicus. Tympanitic resonance was well marked at either side of the prominence down to the brim of the pelvic cavity. Thinking the case to be one of retention of urine only, I introduced a catheter at once, without further inquiry or examination of the patient. About two ounces of a highly-colored and apparently blood-stained urine were withdrawn. This amount of urine flowed freely from the instrument until suddenly checked, apparently by an obstacle in the eye of the catheter, and on withdrawal of the instrument a small clot was found in the eye, as was suspected. The clot was removed, and the instrument at once reintroduced without difficulty, and about the same amount of fluid escaped as before, and was then followed by manifestations similar in all respects with those following the previous act.

Four ounces of warm Thiersch's fluid were then injected through the catheter, principally for the purpose of cleaning the eye of the instrument, but incidentally to test the integrity of the bladder. Immediately following the injection of the fluid, sixty-three ounces of high-colored, faintly bloody fluid flowed continuously from the catheter without difficulty. The expulsive force, however, was not vigorous, and toward the last the flow was accelerated by manual pressure on the hypogastrium. After about thirty ounces of this fluid had escaped, and while considering whether or not I would withdraw the entire amount at once, I remarked to the members of the house staff: "This urine is flowing either from an over-distended bladder, complicated with injury of the right kidney, or I have passed the catheter through an opening in a ruptured and collapsed bladder, and am withdrawing the fluid from the peritoneal cavity." I said further, in almost the same breath: "Had I been thoughtful enough to have made a rectal examination to ascertain if the bladder were distended before having passed the catheter at all, no doubt could now exist as to these points." I concluded to withdraw the entire amount, even at the risk of causing a greater subsequent disability of the bladder than if some portion had been permitted to remain. After the withdrawal, the patient said he "felt first rate," "suffered no pain or discomfort." The entire hypogastric region had become tympanitic on percussion, and the hypogastric distention was gone. Deep pressure did not cause pain, and unusual tenderness was not complained of in this region. Still I was not satisfied. Fifteen ounces of warm Thiersch's fluid were then injected to test the integrity of the bladder wall, and fourteen and a half ounces were withdrawn at once, followed by some dribbling, which was estimated by the lookers-on as equalling in amount the remaining half-ounce of the injected fluid. Finally, one pint of this fluid was injected, with the view of studying the effects on the hypogastric region, and on the base of the bladder, to be determined by rectal examination with the finger and by abdominal percussion. As the fluid was injected the gradual hypogastric distention was noticed by all present, and at my request, Dr. Clark, a house surgeon of the hospital, watched the effect of the injection on the abdominal outline. Percussion, palpation, and inspection alike gave evidence, after the injection, of an enlargement resembling in all respects moderate distention of the bladder. On rectal examination with the finger, the base of the bladder could be easily outlined, although the wall of the organ in this situation was not tense, nor did I think it would be on ac-

count of the previous over-distention of it, that was thought had taken place. All but two ounces of the pint of fluid were then drawn away; half an ounce was estimated for dribbling as before, and the remaining ounce and a half, it was thought, might have remained in the bladder, due to the loss of the contractile power of the organ. I was not at all satisfied with this amount of shortage, as it seemed to me that with supra-pubic pressure as before, all but half an ounce at least ought to be expelled. I suggested the advisability of an exploratory incision, and even directed the giving an anæsthetic for the purpose, but the patient did not concur, and in my judgment there was not sufficient evidence of rupture to warrant the urging of this measure. The patient wished to "wait and see," as he expressed it. I then entertained, for a moment only, the propriety of the introduction into the bladder of sixty-three ounces of fluid, in order to study the effects on the bladder of this amount of fluid. In other words, to begin over again. However, the fluid at hand was nearly gone, and the proposition was considered unwise in any aspect of the case. At this time, too, I was still inclined to the belief that the patient had suffered from retention of urine, due to shock from the previous injury, causing atony of the walls of the bladder; also, that this retention had been aided by blood-clots blocking the entrance of the urethra, the clots having come from an injured kidney.

It was my belief also that the walls of the bladder were powerless to empty the organ, as a result of the previous overdistention, a result not at all uncommon in this class of cases. At any rate, I determined to act on the suggestion of the patient and "wait and see;" accordingly he was placed in bed, given the regulation dose of quinine, and hot fomentations were applied to the abdomen with the view of preventing as far as possible the occurrence of a chill and urethral fever. I find in the history of the case, as entered in the hospital records, the following reasons why the case was not thought to be one of rupture of the bladder at that time. They are of present interest, because they were made in the presence of many of the hospital staff, and indicate the line of reasoning that was employed in the face of the emergency.

I. Because the patient had emptied the bladder an hour and a half before the accident.

The patient's statement in this matter was considered true for the following reasons: *a*, the patient said he was a temperate man; *b*, he had never suffered from disease or injury of the urethra; *c*, no obstruction existed in the urethral canal.

II. It was not believed that the wheel had passed to the median line of the body, or to the cavity of the pelvis even for the following reasons: *a*, The patient was sure that he had been "pushed along in front of the wheel," and that no part of the wheel passed on the body. *b*, The situation of the ecchymosis substantiated the patient's statement in this respect. There was no apparent injury of the tissues at the median line of the body, nor at the right side of the pelvis. *c*, The pelvis was not fractured. *d*, The bladder could have contained but little, if any, more than three ounces of urine at the time of the accident, which amount was believed to have been too small to expose the bladder to the danger of rupture from the pressure of the wheel, even assuming it to have passed across the pelvis in front, without causing fracture or separation of the bony brim. *e*, The conclusion is substantiated further in a degree, by the fact that only about sixty-five ounces of fluid (so far as known) had collected in the body of the patient during the first forty hours following the accident. All things being normal, about eighty-five ounces should have collected, on the basis of fifty-one ounces per diem. At any rate the inference is a fair one, from this point of view, that the amount of urine in the bladder was small at the time of the accident. It is true, no doubt, that less urine was excreted than normally during the forty hours following the accident, owing to the accident itself, and to changes in the surroundings, and inclinations of the patient during this time.

III. The absence of all rational symptoms of peritonitis.

IV. The fluid injected at the first trial (16 ounces) was all collected and measured, except half an ounce which was charged to the dribbling that happened at the time. On the second injection 14 of the 16 ounces were returned at once, with an estimated half-ounce loss from dribbling. The missing 1½ ounce was thought to be still remaining in the collapsed bladder.

V. It was believed that the left kidney had been injured by the wheel, that the blood-tinged urine resulted from this injury, and that the small obstructing blood-clots noticed at the onset were moulded by the ureter of the injured kidney.

In this connection I desire to address two questions to the members of the society.

1. How much urine will an over-distended bladder contain in a living adult patient having a normal urethral canal? 2. How much, if any, of this urine will fail to escape through an unobstructed catheter aided by manual pressure?

It was my belief that the wheel of the cart had struck against the crest of the left ilium first, then, as the "body was pushed along by it," the wheel slipped from the crest upward, and its force was thus applied to the left lumbar region and to its contents; facts that were substantiated by the assertions of the patient, and the area of ecchymosis located thereat.

April 13th.—The patient could not urinate. A small quantity (℥ j.) was drawn with a catheter by the house surgeon, then the stream was suddenly and completely arrested. Six ounces of Thiersch's fluid were then introduced without withdrawal of the catheter, followed by the withdrawal of 25 ounces of high-colored fluid containing a few small blood-clots. Patient lying in bed reading the daily papers and not complaining of any discomfort. Temperature, 98½° F., pulse and respiration normal. No nausea nor vomiting.

April 14th.—Thirty-four ounces of clear urine drawn today without difficulty. No pain, tympanites, nausea, nor vomiting; no unusual tenderness on pressure. Bowels constipated, temperature, 98½° F. Read the papers as usual. Seen to-day by Dr. Alexander in consultation; no change of treatment suggested.

April 15th.—Appears brighter to-day; sixteen ounces of clear urine drawn. Bowels moved with an enema; sat up in bed and read the papers; desired to go home. Pulse, 90; respiration, 20; temperature, 98½° F.

April 16th.—Fourteen ounces of clear urine drawn to-day. Slight pain and tenderness over lower portion of abdomen. Vomited two or three times to-day. Seen in consultation by Dr. L. A. Stimson, who, while not inclined to think that the kidney had been injured, advanced the idea of rupture of the bladder at the prevesical space, but did not feel sufficiently certain of this diagnosis to advise operation. Patient rose from bed to-day and walked around the ward; was anxious to go home, as he said he was not injured sufficiently to remain in the hospital. Temperature, 98½° F. *per rectum*; pulse, 98; respiration, 22.

April 17th, A.M.—No pain, vomited occasionally, read the morning papers sitting in bed. Temperature, 98½° F.; pulse, 98; respiration, 22.

12 M.—While sitting in bed reading the papers, and after again expressing a desire to go home, he suddenly became unconscious, and died before the house surgeon could be summoned and arrive at the bedside.

Autopsy.—The autopsy, such as it was, could be secured only with the greatest difficulty, the body of the patient having been removed home almost immediately by permission of the coroner. Had it not been for the final aid of the coroner, granted by personal request, an examination would not have been permitted by the friends. However, Dr. Houghton, the house surgeon, armed with the coroner's letter, visited the prem-

ises and secured permission to make a small opening into the abdomen in the presence of the friends, but was not permitted to examine the kidney or to remove any portion of the remains as evidence of the injury. Still, through this opening the following facts were ascertained:

1. An intra-peritoneal rupture at the posterior wall of the bladder two inches in length, situated near the bottom of the recto-vesical space.

2. A firm agglutination of the intestines in the pelvic cavity, behind the bladder, circumscribed in arrangement, forming a "false bladder," so to speak.

3. Evidences of beginning general peritonitis.

This case proved most instructive to me for the following reasons:

1. It indicates that the bladder could be ruptured by strong pressure disadvantageously applied from above, one hour and a half after urination; or, that the force of the fall caused the rupture, which does not seem possible.

It seems probable that the wheel did press into the pelvic cavity, the convex portion of the wheel reaching deep enough into the cavity to compress the bladder and rupture it.

This pressure must have occurred while the wheel was pushing the body along the pavement in front of it, the pelvic cavity being directly in front of the wheel. I do not believe that the wheel pressed directly into or across the pelvis, for if such had been the case both sides of the pelvis would have been contused and the pelvis fractured, no doubt, since the load was estimated at one ton weight.

2. It indicates the possibility of the formation of a "false bladder" by localized adhesion of the intestines due to the circumscribed inflammation excited by the extravasation of a small amount of urine; also, that the physical signs of the filling and emptying of this false bladder may be identical with those of a normal bladder.

3. It indicates that peritonitis existed, due to rupture of the bladder and extravasation of urine into the peritoneal cavity, without the appearance of the rational symptoms of peritonitis.

4. It indicates that Weir's test for rupture cannot be relied on under all circumstances, except it be assumed that all of the fluid injected can be returned, which does not seem possible if the bladder be collapsed from overdistention.

5. It emphasizes the fact that a patient may die suddenly of collapse, due to septic poisoning, without the appearance of symptoms indicating its existence.

6. It suggests the importance of the injection of a small amount of fluid to clear the eye of a catheter, when obstruction to the eye of the instrument is thought to be due to blood-clot.

7. It demonstrates that when rupture of the bladder with extravasation is to be differentiated from retention of urine, a rectal examination of the base of the bladder to determine the degree of distention should *always* be made before any operative procedures are employed.

8. Finally, it teaches, in no uncertain tone, that when one is called to see a case for the first time, he should examine it from all standpoints completely and carefully, not do as I did in this one, begin where the previous attendant left off.

As I look back over this case, I am forced to the conclusion that three elements of it, only, were the cause of the failure of a fuller appreciation, on my part, of the vesical and urinary signs and symptoms suggestive of rupture: 1. The belief that the kidney had been injured, thus accounting satisfactorily to myself for the modifications of the character and amount of urine. 2. The belief that the bladder could not have been ruptured, in so empty a condition, by the wheel of the cart, without the occurrence of more serious injury to the pelvis. Finally, that the collapse of the bladder due to overdistention accounted for its failure to return the entire amount of fluid introduced to test the existence of rupture.

SOME ANTISEPTIC PRECAUTIONS DURING ATTENDANCE UPON CONTAGIOUS DISEASES.[1]

By WILLIAM P. NORTHRUP, M.D.,

PATHOLOGIST TO THE NEW YORK FOUNDLING ASYLUM.

Mr. President and Members of the Society: My reason for appearing before you with a subject differing from that set down against my name on the programme is that, on further reflection, I have chosen more wisely. I wish to present for your consideration a subject which is just now assuming greater importance than ever before in the profession at home and abroad. It is this:

How may the physician in attendance upon contagious diseases protect himself and his other patients from infection?

To point the discussion I will limit it to diphtheria. If you share with me the belief that the infection of diphtheria is communicable both by contact and transportation, you will share with me the dread lest the physician himself may become the carrier. In looking into a child's mouth the tongue-depressor may excite sudden cough and the clothing of the examiner become bedewed with spittle; in syringing a diphtheritic pharynx or nose, spasmodic recoil may project a tiny colony of germs upon some garment.

I have the unpleasant remembrance of more than once, in my early experience, starting to leave the house, after intubation of a diphtheritic patient, with a good-sized piece of false membrane clinging to my shoulder or to my sleeve; I have often felt particles from the mouth of the patient fall into my eyes and nose and upon my lips. I confess to you that, month by month, I have come to loathe, more and more, the condition which makes my person the possible medium of infection from child to child. I have gradually become so sensitive upon this point that I spend nearly as much time trying to protect myself and my friends from infection through myself as I do in visiting diphtheritic patients.

In New York, diphtheria is endemic. My habitual practice now, among children, is to isolate all cases of tonsillitis having any kind of exudate upon the tonsillar surface, and with the child to isolate a nurse. If the patient develops characteristic diphtheria all communication with the rest of the household is cut off; the meals of the attendant and all needed articles are left at the door. At each visit I remove my coat in the hall, bare my arms to the elbows, pin a sheet before me in such a manner that the sheet shall cover my person from chin to elbows and shoes. Having done this I put on glasses for the protection of my eyes. There is no case in which it is not necessary at each visit to inspect the throat, scarcely a case in which washing by syringe is not needed, and many times it is required to make local applications. Furthermore, every house, however poor, can set aside a sheet for the use of the doctor. On leaving the room I remove the sheet, fold it in such manner, that the side next my clothing shall at the next visit be in the same relation; having folded it I pin it. I have also calico gowns made of such liberal pattern as to wholly envelop my person, neck to wrists and thence to shoes. I find, however, that this unusual apparition does not always meet the approval of the child—frightens it, and the sheet does not.

For tongue-depressor a spoon serves the best purpose, is familiar to the eyes of the little patient, and is easily cleaned. Moreover it is not difficult to procure as many spoons for such use as there are patients in the house. It seems to me the utmost disregard of good hygiene on the part of the physician to carry in his pocket a patent spatula or cleverly devised tongue-depressor for use from mouth to mouth.

Having finished the visit and laid aside the protecting

[1] Read before the New York State Medical Society, Albany, February 5, 1890.

sheet, the hands and arms can be washed with soap and water, the nails carefully cleaned, bichloride solution or creolin solution well soaked in, and the skin rendered soft by the use of olive-oil or some toilet preparation. A clean, fresh towel serves to finish the cleansing, and the doctor slips away to his outer garments and the fresh air, having done something in the direction of antisepsis in accord with the teachings of the day.

Now, what is to be done with the clothing of the child? How about the handkerchiefs, towels, napkins, toys? How about the pillow-cases, sheets, spreads? How about the small objects of value about the room? How about the mouth-washings and gargle-water, excretions of the body, etc.? To answer the last question first, I advise carbolic acid, five per cent. solution, or creolin solution for disinfecting what is to pass into the sewer; the prolonged use of bichloride has been found to injure the plumbing. For disinfecting the discharges from mouth and nose there is no safe way practically but by fire; a thick mass of tough, pseudo-membrane allowed to dry offers a resistance to solutions which opens the way to too many dangers. The discharges should be carefully caught in old cloth, and burned promptly; for the excretions, then, strong disinfecting solutions; for discharges from mouth and nose, *nothing but fire!*

For disinfecting those articles of value about the bed and about the room I take pleasure in recommending to you an apparatus which has afforded me much satisfaction.

This odd-shaped steam vessel which you see before you was spied out by Dr. T. M. Prudden, at an annual exhibition of the American Institute Fair in New York, about three years ago. Numerous placards and handbills announced to visitors at the fair that this apparatus was invaluable for cooking purposes; that the cooking was all done by steam. Among other recommendations it stated that the cooker could be trusted to take care of itself while the cook went to church; on her return it would have her dinner of meat, vegetables, and dessert, too, for aught I know, quite cooked, and without possibility of burning. To make a long story short, this clever device of a dyspeptic has nearly or quite supplanted all the expensive, imposing, felt-jacketed Berlin sterilizers in the leading laboratories of this country, and has even found its way, like coals to Newcastle, to Koch's laboratory.

In order to reserve time in my allowance in which to demonstrate the apparatus, I will omit all description of parts except to call your attention to the two prominent features: the shallow vessel at the bottom, which is practically an "evaporating dish," and the hood, which serves to form a steam-jacket about the sterilizing chamber. This apparatus is capable of effectually destroying all the varieties of disease-producing germs which are now known. It is known as the "Arnold Steam Sterilizer."

It may be briefly considered under the following heads:

I. On what principle does it work?

II. What proof have we that it is effectual?

III. Of what practical use is it?

I. On what principle does it work? In answer to this question I quote from an article by Dr. T. M. Cheesman, Assistant in Bacteriology, College of Physicians and Surgeons, New York, published in the MEDICAL RECORD of July 13, 1889: "Sterilization is accomplished by bringing the object to be sterilized to the temperature of live steam (moist) and maintaining it at that temperature for about forty-five minutes. Boiling for the same length of time in a vessel, the sides of which are exposed to the air, is not sufficient, as the temperature in different parts of the vessel is found to vary considerably. . . . Numerous tests have shown that with a single Bunsen burner, and ordinary gas-pressure, the temperature of 100 C. is reached in all parts of the receiving vessel in less than ten minutes. . . . When the temperature of 100 C. is reached sterilization has commenced, and should be continued for the time specified, forty-five minutes, which time is necessary on account of the great resistance of the spores." These careful statements were made in connection with the subject of sterilizing milk for which this apparatus was recommended by Dr. Cheesman. After careful measurement of the temperature in every angle and against all the walls of the sterilizing chamber he found that the thermometer registered uniformly 100° C., or 212° F.

II. What proof have we that it is effectual? In answer to this question we need only state that every great laboratory of New York, Brooklyn, Boston, and Baltimore is habitually using to day this apparatus for preparation of its culture-media. This may be regarded as the crucial test of any method of sterilization, *i.e.*, that it can be depended on systematically to prepare susceptible fluids for culture-media, such as agar-agar, gelatine, beef-tea, etc., germ-free, to await indefinitely implantation of selected varieties of bacteria. The slightest accidental cloudiness of nutrient bouillon destroys its usefulness. It must await the inoculation of germs carried upon the platinum wire, at the will of the bacteriologist, and grow nothing else, or it is useless.

III. Of what practical value is it? Of what value is it to have a light and easily transportable cheap apparatus, of five-gallon capacity, capable of effectually sterilizing all objects which, from their size and quality of material, can be admitted to its chamber and exposed to live steam? Of what value is it in connection with contagious diseases? Here again this discussion must be shortened to a mere recital of facts supplemented with demonstration. The copper sterilizer here shown is already a veteran in service; and in many a campaign has proved a faithful body-guard. My practice is to send it at once to the room of the diphtheritic patient, place it over a gas-stove or Bunsen burner, fill the reservoir with water, and let it await the accumulation of soiled clothing. It should be closed except at the moment of thrusting in additional pieces. When sufficient is gathered the gas-stove is fired for two hours, after which time the disinfected garments, handkerchiefs, towels, etc., are transferred to a boiler and sent to the wash. I have found it a satisfaction to have in waiting, near at hand, this disinfecting apparatus for articles which are of value, which apparatus accomplishes its work promptly, without wetting, staining, or rotting the fabrics. There is no rolling the soiled garments into a bundle and throwing them out of the window, no soaking in the bath-tub, no dissolving them in corrosive fluids, no streaking them with dirty-brown or blackish stains—in short, no wholesale destruction of the contents of the sick chamber. After the case is finished, the bedding, including pillows, the clothing of the child, toys not glue-fastened, may be passed through the sterilizer and afterward washed and aired, and not wastefully destroyed. I have known paper-bound books, willow baskets, colored tidies, lacquer-ware, camel's-hair shawls, and various and sundry objects of bric-a-brac and virtu, after a two hours' imprisonment, withdrawn from the sterilizer disinfected and quite unharmed. It must be borne in mind that live steam scarcely dampens the objects. If we quickly withdraw the contents of this steam-chamber while at a maximum degree of temperature, the fabrics will be very hot, scarcely damp, and will become quite dry in less than a minute if exposed freely to the air. The garments of the physician may be disinfected in the same manner. I hope to demonstrate to you that ordinary cheviot material, carefully folded and quickly dried, will not be crumpled nor creased.

To some this five-gallon copper sterilizer may seem expensive for simple disinfection in contagious cases. It is just as valuable in the office of the surgeon for disinfecting bandages, dressings, instruments, and sutures. To the physician it is serviceable in sterilizing milk for babies; with the attachment here shown it makes the best "croup kettle" I have yet tried, making more steam and heating the room less. In an old ladies' home which I visit I have made many friends by using this as a steam inhaler, turpentine or eucalyptus lending itself to the purpose most admirably, while many an old lady has, as she be-

lieves, been cured of peritonitis and pneumonia by hot flannels prepared in the sterilizer. There is one further purpose for which it seems very well adapted and that is for steaming or steam-sweating patients waterlogged in Bright's disease. This two-gallon tin sterilizer, with spout having any number of joints for prolonging it, can be regulated to give any degree of heat without the attendant risks of setting fire to the bedding. A small burner and long spout will accomplish the desired purpose most satisfactorily.

Briefly to summarize what I have to say in recommending to you this disinfecting apparatus, known as the Arnold Steam Sterilizer, I repeat that:

I. All known disease-germs with their spores are destroyed by prolonged exposure to steam at an unvarying temperature of 212° F.

II. Experiment and the daily experience of the bacteriologist has proved that this apparatus maintains the required temperature in steam, and that it is an effectual sterilizer.

III. It is of practical use to the physician for sterilizing clothing, bedding, and other fabrics in contact with contagious cases; to the surgeon for disinfecting bandages, dressings, and instruments; to the hospital, nursery, and infirmary for steam-sweating dropsical patients, steam inhalations, "croup-kettle," sterilizing milk, heating flannels, making and reheating poultices, etc.

These recommendations are founded on personal experience, and I cordially lay them before you, hoping you may, in testing the truth of them, find what I have found —much satisfaction.

DISINFECTION DURING AND AFTER THE ACUTE INFECTIOUS DISEASES.[1]

By G. W. McCASKEY, A.M., M.D.,

PROFESSOR OF THEORY AND PRACTICE OF MEDICINE, AND CLINICAL DISEASES OF THE CHEST AND NERVOUS SYSTEM, FORT WAYNE COLLEGE OF MEDICINE, FORT WAYNE, IND.; FELLOW OF THE AMERICAN ACADEMY OF MEDICINE; PRESIDENT OF THE FORT WAYNE ACADEMY OF MEDICINE.

THE highest aim of modern scientific medicine is the prevention rather than the cure of disease. The list of preventable diseases is so large and their fatality so great that complete suppression would render necessary the reconstruction of the entire fabric of statistical sociology, and mark an unprecedented era in the physical condition of the human race. This end would be in great measure accomplished if the acute infectious diseases could be stricken from the calendar. That this is within the range of possible achievements will not be seriously questioned by any one thoroughly conversant with the facts. How best to do it is the real question at issue in this field of medical thought.

As a condition essential to the attainment of the best results of systematic disinfection, perfect isolation must be insisted on. Without this our best directed efforts must fail. The ignorance and selfish obstinacy found at opposite ends of the social scale, coupled with no small amount of apathy or something worse on the part of the profession, are accountable for the too general disregard of this vital precaution.

Coming now to the immediate question of disinfection the first problem that presents itself for solution is the selection of such germicidal agents and methods as will be at the same time reliable and practical. To be reliable they must stand the test of laboratory experiments, fairly conducted and reasonably interpreted; to be practical they must not be too complicated nor too expensive. The problem is a compound and intricate one, and must be resolved along different lines. A given germicidal agent or method, for instance, may or may not be effective in the presence of the albumin or fat so lavishly distributed among the household effects of certain classes; and those, too, in which infectious diseases most largely prevail. Thus mercuric chloride solution, harmless to wooden surfaces, would ruin silverware; while heat, so widely applicable, would damage rubber goods.

I will first ask your attention to the fumes of burning sulphur—sulphur dioxide. This agent, because of a reputation established in the pre-experimental era, its convenience, some actual germicidal power, and an odor which, it must be conceded, is strongly suggestive of tangibility, power, and general destructiveness, still retains a reputation which it does not deserve. From a practical point of view the most important investigation with which I am acquainted is that made by Dr. Kinyoun, at the quarantine station below New Orleans, under the auspices of the United States Marine Hospital Service. The results were submitted to Surgeon-General Hamilton, and published in the *Weekly Abstract of Sanitary Reports* for June 29, 1888. Cultivations of various organisms were exposed to the fumes of burning sulphur in a very thorough manner, with the aggregate result of killing the germs in sixteen out of seventy-four instances—or a little more than twenty-one per cent. In one experiment the oft-repeated statement that the germs in culture-media were inaccessible to germicides, and that the failure of the latter under such conditions is not proof of its inutility in clinical medicine, is shown in a most conclusive manner to be erroneous. In this instance cultivations on agar-agar were exposed side by side with those on rags, to the sulphur fumigation for twenty-four hours. Of the agar-agar cultures three out of eight were killed, while of those on woollen rags not one was destroyed. This would seem to indicate that such tests, instead of being too rigorous, were not severe enough. Indeed, the circumstances in which the infectious germs are frequently found, such as being mixed with filth, deeply imprisoned in dense textures, etc., fully justify the assertion that they are more inaccessible to germicides in the sick room than in the plate-cultures of the laboratory.

Wernich failed to kill the bacteria of putrefaction by exposure to an atmosphere, 3.3 per cent. of which was sulphur-dioxide. Schatte and Gartner failed with six per cent. Koch subjected bacilli for ninety-six hours to an atmosphere which contained 6.13 per cent. at the commencement, and 3.3 per cent. at the close of the experiment with entirely negative results. On another occasion, however, he obtained the contradictory result of killing the bacillus anthracis by exposure for one hour to a very moist one per cent. atmosphere. But the germs were devoid of spores and did not therefore possess their usual vitality. Sternberg poured liquid sulphur-dioxide upon the bacilli of anthrax without impairing their germinating power when removed to a suitable medium. He also killed micrococci (which are always sporeless, and therefore easily destroyed) by exposure in a dry atmosphere to a twenty per cent. mixture of the gas (Sternberg).

As showing inferentially the estimate of one quite eminent authority it may be stated that the extensive tables of Miquel, classifying no less than sixty-five germicides, ranging in power from those "eminently antiseptic" through six classes down to those "very feebly antiseptic," do not accord a place to it anywhere in the scale. So much for experimental proof.

If we now turn to the results of clinical observation, we find them to be very far from satisfactory. Dr. J. Lewis Smith reports a case of scarlatina; after which the room was fumigated from morning till evening; two months later, a little girl spent a few days in the house and was taken with a fatal form of the disease. She came from an inland town without evidence or suspicion of other exposure. Such instances he says are not uncommon.

In a recent article by Dr. Cyrus Edson, Chief Inspector of the Health Department of the City of New York (New York MEDICAL RECORD, November 16, 1889), we are informed that nearly every room in New York City in which there had existed a case of small-pox, measles,

[1] Read before the Michigan Southern Medical Society, at Hillsdale, Mich., December 10, 1889.

scarlatina, or diphtheria, had been fumigated with sulphur-dioxide; and that his "wide experience had led him to the conclusion that it is a thorough and almost perfect destroyer of the infective matter of the acute exanthemata and diphtheria." A conclusion of so great importance, expressed with such emphasis, and by one whose high official sanitary position carries with it a certain semblance of authority, is entitled to a careful consideration. Rendered somewhat sceptical by the well-known facts above cited, we turn expectantly to the records upon which his conclusions are based. Collected from a certain territory and time in New York (presumably not the most unfavorable selection) here they are: 326 cases of small-pox, no secondary cases; 515 cases of diphtheria, 114 secondary; 626 cases of scarlet fever, 135 secondary; 557 cases of measles, 163 secondary. Thus in a total of 2,024 cases, 1,612 were primary, and were followed after fumigation by 412 secondary cases; the latter being more than twenty-five per cent. of the former. Dr. Edson explains, however, that only 102 of the secondary cases occur late enough to preclude the possibility of direct exposure to the primary cases. But even this number (102) is 6.3 per cent. of all the primary cases. In other words, it is admitted in regard to this "perfect destroyer" of infection, that every 1,000 cases of the acute exanthemata will give rise, in addition to the victims caused by direct exposure, to sixty-three more, which owe their existence to germs derived from rooms that have been subjected to sulphur fumigation. If we do not accept the explanation which disposes of three-fourths of the secondary cases, attributing them to infection obtained prior to fumigation, the number would be 250.

These facts scarcely fulfil the expectation awakened by the announcement of such a conclusion. But when we learn that the removal of the clothing, mattresses, etc to a properly equipped disinfecting station is a part of the plan recommended and presumably practised, it may well be considered a debatable question how much greater the number of secondary cases would have been without the sulphur fumigation.

While the facts seem to fully warrant the conclusion that sulphur gas, as a germicide, is, to say the least, capricious and unreliable in its effects, yet it has, of course, some value. Its efficiency will depend in great measure, as indicated by Dr. Edson, upon the quantity of moisture which the atmosphere contains. In the fumigation as practised by the New York City Board of Health the sulphur is ignited and burnt with four ounces of alcohol. Considerable importance has been attached to the quantity of vapor produced in the combustion of the alcohol, as furnishing the needed moisture in the room. The quantity of steam thus formed was estimated at fifty quarts. I will be responsible for the assertion that the vapor produced by the four ounces of alcohol is about two hundred quarts, instead of fifty; my estimate being based upon the molecular weight of alcohol and water and the chemical reaction of the combustion of the former; yet it is still very far from sufficient to meet the demands. In order to get the full effect of the sulphur the atmosphere should be saturated with moisture.

If sulphur fumigation must still be used as an auxiliary in the disinfection of houses, let it be under the most favorable conditions. Let it be provided that the air shall be surcharged with moisture. Of course, the hotter the room the better, as it will take up more vapor, and thus render the SO_2 more effective. If in excess, the watery vapor (containing the sulphur dioxide in solution) is undergoing constant deposition upon all exposed surfaces, which are being bathed in, or at least moistened with it. But when made as effective as possible, the evidence showing that as a germicide it is unreliable and capricious in its effects seems to me entirely conclusive. It should not be relied upon alone, even for the disinfection of the chamber walls and such furniture as cannot be removed to the disinfecting station. Postponing the further consideration of the proper methods of dealing with these non-transportable articles, I will next discuss the most important question, in my opinion, relating to the entire subject; that is, the construction of the disinfecting station, to which an allusion has just been made.

An institution of this sort, provided at public expense, is absolutely indispensable to the attainment of success in the struggle with the acute infections. For various reasons, among them the prejudice, ignorance, and poverty of the masses, and the technical skill and knowledge and large expenditure of money required, it is by some such provision alone that the conditions of the problem can be met. Mutual protection from a common danger both justify and require the interposition of the police power of the State. The feasibility of this plan is no longer a question for discussion. It has been practically demonstrated, and has received the highest endorsement. Its further development and final adoption by the civilized world will be a part of the future history of sanitary reform. In view of its great importance, and the desirability of having a single appropriate term to take the place of "quarantine apparatus," "disinfecting station," "disinfecting apparatus," etc., I will venture to suggest the word "Disinfectory," as applicable to the various institutions designed for practical disinfection. It seems to possess the desirable qualifications of brevity and a legitimate etymological ancestry. It has, moreover, received the sanction of a friend competent to judge of such matters, and will, henceforth, be employed in this paper.

In regard to the processes to be adopted in a disinfectory, we are, fortunately, at no loss to decide. Steam, confined in compartments strong enough and tight enough to permit a pressure of from fifteen to twenty-five pounds, is the very best method known, and absolutely reliable. In the disinfectory connected with the quarantine station near New Orleans, the steam is applied at a maximum pressure of seven pounds. At this pressure the steam has a temperature of 220° F.; at fifteen pounds it would be about 250°; while at twenty-five pounds it would be 275° F. The experiments of Dr. Kinyown, above referred to, proved that the finest fabrics, such as silks and laces, were not impaired by this treatment. The apparatus now in use by the Louisiana State Board of Health consists of a series of cylinders, each fifty feet long and nine feet in diameter, one end of which swings open as a door, or dome, closing and clamping steam tight. A number of racks for the purpose of carrying the articles to be disinfected, are attached to a car which runs on a removable track, thus enabling the racks to be run out and filled and returned, after which the track is removed and the door or dome closed and fastened, and the steam, accessory provisions for which have, of course, been made, turned in. After thirty minutes' exposure, the steam is allowed to escape, the dome swung open, and the goods removed.

The expense of such an institution depends upon the capacity for work which it will be required to possess. The one at New Orleans, which has to deal with the entire cargo of a ship at one time, cost $10,000. Dr. Williamson,[1] the president of the Louisiana State Board of Health, has recommended for Government use a portable apparatus built upon a flat car. Its cost is from twelve to fifteen hundred dollars. Several of these have been constructed. They could, of course, be made for less money if permanently located, thus avoiding the expense of the flat car, which a railway official informs me costs about $400. The net cost of the apparatus, which, of course, includes some sort of sheltering inclosure,

[1] I am indebted to Dr. Williamson for a very courteous and painstaken letter, in which he says that their apparatus has been copied by Galveston, Tex., Charleston, S. C., and the United States Government; and that plans are in process of construction at San Francisco and other places. He expresses the belief, in which I fully concur, that "within five years it will be in use in all quarantine stations." I will add the prediction that in that time, this or a similar apparatus will be in active operation in all the centres of population.

would thus be less than $1,000. It is entirely practicable, so far as expense is concerned, to supply every community in the United States, excepting, perhaps, the most sparsely settled localities. with a disinfectory commensurate with its needs.

It is not claimed that the apparatus in use at New Orleans is perfect; yet in view of the probable fact that no better disinfecting agent than steam will ever be found, it is difficult to see wherein any radical improvement can be made. Those who have been instrumental in bringing it to its present state of development are entitled to the gratitude of the civilized world. If infected goods are subjected for one hour to super-heated steam in this or any suitable appliance, it may be regarded as practically certain that no disease-germ will survive the ordeal. Indeed, the investigations of the committee of the American Public Health Association, showed that all the germs experimented on, which included the bacillus anthracis and other "tough" specimens, were killed by five minutes' exposure to steam at a temperature of 212° F. The higher temperature, however, is desirable, because it is more rapidly effective. and because the associated pressure insures the permeation of the steam through the interstices of dense, heavy textures, such as mattresses and the like, which might otherwise escape.

Displacement of the steam by superheated air under a very low pressure, would insure the complete removal of all moisture from heavy upholstery, woollen goods, etc. This would remove one objection to the steaming process on the part of those whose full co-operation is desirable, if not essential, to full compliance with a law which will be looked upon by many of the lower classes as an infringement of personal liberties. and treated with studied neglect if not outspoken animosity.

The removal of the goods to the disinfectory involves a possible risk of spreading disease. It can be entirely obviated by the use of paper sacks and wrappers, which are practically impervious, and possess the additional recommendation of cheapness. They can be supplied in abundant quantities, by reason of their cheapness. and should. of course, be burned as soon as the goods are removed.

Assuming now that everything that is portable and amenable to its processes (which, of course, includes facilities for burning whatever is to be destroyed) has been removed to the disinfectory, the floor, walls, furniture, etc., remain for consideration. Everything which can be subjected to that best of chemical disinfectants, mercuric chloride, should be thoroughly treated with a 1 to 1,000 solution. The only prerequisite is the removal of dirt (which might contain albumin or grease), from the various surfaces to be washed; for in their presence it has practically no germicidal power. To effect this they should be washed with a strong solution of some very alkaline soap, which is itself not wholly destitute of disinfecting power. The greatest care should be taken to insure the introduction of the fluid into all crevices, joints of furniture, and other inequalities of surface, where disease-germs might escape contact with the fluid. One of the greatest difficulties met with is in dealing with upholstered furniture. Of course it ought not to be in a sick room, if it can be replaced by that made of willow or similar material, which can be easily disinfected. However, when exposed, as it often must be, it should either be saturated with the mercuric chloride solution, or the cloth removed and both it and the padding sent to the disinfectory to be treated with superheated steam. which can be done without the slightest injury. The only proper way to deal with papered walls is to saturate the paper with the mercury solution, or some equally potent germicide, and then have it removed. to be replaced by new when the disinfection is complete. Carpets should either be submerged in the solution or treated with the superheated steam. Any metallic or other surfaces which would be injured by the mercury ought to be treated with some reliable non-corrosive germicide, such as a five or ten per cent. solution of carbolic acid.

It is unnecessary to detail the evidence in favor of the efficiency of mercuric chloride as a germicide. It is well known and altogether conclusive. Its objectionable features are its corrosive and toxic properties. These, however, can be easily obviated by the exercise of reasonable caution and intelligence.

The subject of corporeal disinfection involves two distinct and very different factors, viz., first. the patient. who is the hot-bed in which the germs are multiplied and from which they are distributed in quantities practically unlimited; and, second, those in attendance as physician or nurse, who may act as carriers of the poison. In respect of the former the question must be answered with regard to the particular disease confronted. Antiseptic baths as strong as can be used without undue irritation, would undoubtedly diminish the virulence of poison emanating from the skin. Their action and results, however, could only be temporary, and their use ought to be guided by the hydro-therapeutical indications of each case. If they are contra-indicated from this stand-point, the benefits which can reasonably be expected are insufficient to warrant their use. Inunction with some oleaginous substance, which can itself be made mildly germicidal, indirectly accomplishes the object by preventing the dissemination of the dry cuticular scales.

Of course all excrements should be subjected to the action of a reliable germicide. On account of the frequent presence of albuminous compounds in the various excreta, mercuric chloride is not the best germicide which can be selected for their disinfection. Chloride of lime solution, in the proportion of four ounces to the gallon of water—the No. 1 standard solution of the Committee of the American Public Health Association — probably meets the demands of economy, convenience, and potency better than anything else. It should be kept in all receptacles intended for these products. thoroughly admixed with them and left in contact for several hours.

Clothing which needs cleansing during the progress of a case should either be sent to the disinfectory or macerated in a 1 to 1,000 solution of corrosive sublimate for twelve hours, and then boiled. Plates, knives, forks. glasses, cups, etc., should be treated with five per cent. carbolic acid solution, and afterward boiled.

A gargle composed of some mild germicidal solution is rationally indicated in diphtheria and scarlet fever, both for the patient and those who are in more or less constant attendance; in the latter as a prophylactic, and in the former to weaken the virus generated in the throat. with the view of diminishing the danger both of auto-infection and of transmission to others. For this purpose Listerine is a very pleasant and sufficiently powerful agent. Combined with water, in the proportion of one to four, it forms a very agreeable mixture. It could be also used in the nasal cavities in the form of a spray to good advantage.

The physician is very often the bearer of infection. The problem of keeping himself free from it during his daily rounds it must be conceded presents many difficulties; but they can and should be overcome in the interests of humanity. If it takes time and trouble they should be given, but the physician ought, by all means, to be compensated for the extra labor involved. It is not for his individual but the public good, and it should not be required of him as a donation. Calling the attention of the laity in such a persuasive manner to the methods of transmission of disease-germs and the care required to prevent it would have for them an educational value.

Briefly, the outer garments worn while visiting cases of infectious disease should be removed. The physician should avoid sitting down in the infected room; and should limit his contact with the patient and the various articles of the room to his hands, or better, one hand. The hands should always be washed with a reliable germicidal solution before leaving the room.

Nurses ought to be subjected to thorough and com

plete personal disinfection before being permitted to leave the sick chamber.

There is much that remains to be worked out in dealing with the various infections; but the accumulated facts would seem to justify the formularization of a detailed and comprehensive plan, the complete fulfilment of which ought to pronounce their doom. When the various disease-germs have been isolated and separately studied experimentally, it will undoubtedly be found that variations in technique will be advisable in dealing with the different species. Whether the results of these variations will be of such importance as to demand their practical recognition is a question which cannot yet be answered. In the present state of our knowledge the agents and methods enumerated are, in my opinion, entitled to the greatest measure of confidence. If it is objected that the system is too complicated for practical purposes, the sufficient answer is that the end fully justifies the means. The outlay would be of the most remunerative kind, even if we estimate the value of the human life and labor which it is possible thus to save on the low plane of social economics. Their actual cash value to the commonwealth would more than justify the seemingly large expenditures.

But is it really so complicated after all? Let us briefly summarize what is actually required: First, a well equipped disinfectory provided at the public expense and accessibly located; second, mercuric chloride solution, 1 to 1,000; third, chloride of lime; fourth, five per cent. solution of carbolic acid; fifth, sulphur (?). This does not appear to be either complicated or in any other way unreasonable. No unusual amount of skill or intelligence is required to secure its full operation.

Whether the plan outlined is in its details the very best or not, it is at least the legitimate outcome of experimental work. It is consistent with and endorsed by the facts and deductions of the laboratory, to which the clinician must look for the origination of methods and their ultimate verification in this department of practical medicine.

38 West Wayne Street.

EARLY EXPLORATORY INCISION IN ABDOMINAL SURGERY.[1]

By NEIL MACPHATTER, M.D.,

Denver, Col.

In choosing the above subject, I do so in order to advocate a principle which I consider of great practical value to our profession, and one which has not yet received that attention to which it is entitled. In taking a general survey of our profession, one is astounded at the number of complaints, especially among the diseases of women, that have been allowed to go unrelieved. In speculative moments, I cannot but reflect upon the wonderful advancement that has, within recent years, been made in elucidating many of the mysteries that have always surrounded abnormal conditions within the female pelvis; mysteries that would have continued to remain in obscurity and doubt, had not several of our surgeons shaken off the shackles and teachings of the elders, and revealed these diseases in a new and reasonable light. These workers have shown that many of the teachings of the old school could no longer be followed or sanctioned, and that the sooner the profession recognized that, in many instances, the treatment was to be rescued from the hands of empiricism and placed upon a firm scientific and surgical basis, the better for the profession and our patients. With the novice, as well as those who know but little of abdominal surgery, accuracy of diagnosis is looked upon as one of the essentials before an operation is undertaken. It is to endeavor to show the fallacy of such teachings that I have undertaken this subject. Had this been the guide and criterion of the pioneers of our profession, abdominal surgery had never attained its present proud position, if indeed it had ever struggled into existence. I have always maintained, and recent events have added to my conviction, that absolute accuracy in diagnosis of many conditions within the pelvis cannot always be determined. It is for this reason that much of the empiricism that is practised can be accounted for. It is my purpose in this paper, to-night, to give a short *résumé* of some vague conditions that can only be cleared up and successfully treated by resorting to exploratory incision.

Taking first the tumors of large size, such as the soft œdematous myoma, ovarian cystoma, parovarian cyst, and others, there are frequently conditions and symptoms of similarity that render a differential diagnosis puzzling and impossible. This should not, however, deter the operator from opening the abdomen, making his diagnosis and then removing the tumor, whatever kind it may happen to be. In many conditions of the tubes is this argument particularly applicable. A distended tube with an ectopic pregnancy, before the period of rupture, is in some instances absolutely impossible to distinguish, either by subjective symptoms or by physical examination, from a pyosalpinx. In either case our patient is in most imminent danger. There is but the thinness of parchment between her life and almost certainly fatal peritonitis, upon the one hand, and alarming, if not fatal, hemorrhage, on the other, which any sudden exertion may bring on. In fact, she is at the mercy of accidents, having no sufficient warning. Here, in either case, are tubes distended and whose walls are gradually getting so thin that they cannot resist further distention. They are liable to rupture at any moment, whether from the rapidly growing fœtus or from accumulation of pus, with almost certainly fatal consequences, and yet it is frequently maintained that we should withhold the knife from the safety and relief it affords.

There is yet more uncertainty in the diagnosis of those vague pelvic disorders for which the physician is so often consulted, and upon examination no tumor can be found. These patients are nevertheless in a serious state of health, and are gradually and surely getting worse. All manner of treatment will have been tried, such as rest, hot-water douches, blisters, pessaries, massage, etc., without deriving any but trivial results. The physician will shortly discover that his patient is verging upon the edge of chronic invalidism, with constant pain in the pelvis as a prominent symptom. Upon close examination it will frequently be ascertained that there has been inflammatory trouble following an abortion, normal labor, or one of the zymotic diseases. A typical case, illustrating the results of scarlet fever upon the ovaries, came under my care some time ago.

A young lady, aged twenty-two, consulted me some time ago, complaining of intense dysmenorrhœa. The history of the case was that she had always been a healthy girl up to the age of twelve years, when she had rather a severe attack of scarlet fever; menstruation began at fifteen, and was accompanied by a good deal of pain. The discharge was irregular and scanty. The period of most intense pain was during menstruation. For years this pain became more severe, and latterly was quite unbearable. So much so that she was confined to her bed for over a week each month. All manner of treatment had been without benefit. She was sent to me with the history I have given, and expressed herself as willing to undergo any operation rather than endure her eternal pain. By examination I could detect nothing abnormal, but the symptoms were such as to call for investigation. From the history and symptoms, I concluded the ovaries were cirrhotic as the result of the scarlet fever she had when twelve years of age. My diagnosis was simply a strong and well-founded suspicion gathered from having seen a number of such cases. I expressed my opinion to the young lady's parents, and recommended that they allow

[1] Read before the Denver Medical Association and Arapahoe County Medical Society, October 3, 1889.

me to make an exploratory incision, and if the condition justified any further steps, to go on. This they gladly accepted, and at the operation my suspicions were fully confirmed, for I found the ovaries quite shrivelled by cirrhosis, but still struggling to fulfil their functions. The operation had a splendid effect, the young lady has fully recovered; the pain has left her, and she looks the picture of health, and expresses herself in grateful terms.

In those conditions where the trouble is due to a previous pelvic peritonitis or parametritis, no distinct enlargement will be appreciable by physical examination, although there will be present many conspicuous changes in the cellular and connective tissues. These changes are due to extensive parametritic and peritoneal cicatrices, and keep the uterus and its appendages in a more or less fixed position, according to the number and direction of the remnants. These pseudo-membranous cicatricial bands may bind themselves in almost any conceivable direction. Frequently it happens that the ovaries and tubes are implicated and bound down, and matted together by these contracting membranes. They have by this time lost their functions irretrievably, and permanent sterility is the consequence. The argument advanced, that the removal of the tubes and ovaries in such cases unsexes the woman, is of course utter nonsense, as she is already unsexed as the result of the disease. In instances of this character, when, after every known line of treatment has been faithfully carried out, the duties of the surgeon are urgently justifiable to make an exploratory incision, remove the appendages, break up and drain away the adhesion. By this means one can restore to health and comfort many women, who would otherwise be tossed about from one physician to another, seeking relief and finding none.

Examples illustrative of this can be multiplied *ad infinitum* if necessary, showing that this principle of exploration is a necessary and a sound one, and that much suffering and many lives can be saved by its judicious application. The appeals, I might say warnings, frequently but not too urgently expressed, but becoming more recognized every day, that physicians delay too long in recommending surgical interference, is in few more needed than in this class of disease. An interesting case, both from a clinical and pathological stand-point, came under my notice while I was in the East.

A married lady, aged thirty-two, had been complaining ever since her last confinement, some eight years ago, of a great deal of pain in her pelvis. This pain was intensified at times. I ascertained she had several attacks of pelvic peritonitis. Gradually her suffering became more marked, and she had tried various lines of treatment. I was called in consultation, and although I could find but slight enlargement of the left tube, yet there was considerable binding down of the tissues on the corresponding side, and I felt satisfied that there was tubal trouble, and recommended an operation. This proposition was accepted, and the operation was performed a few days subsequently. It proved to be a very difficult one, as there were tense and rigid adhesions matting all the parts together. I hand you here for inspection the ovary and tube which I removed. You will observe there were a great number of adhesions, as shown by the specimen. You will also observe a state of affairs that is of very rare occurrence, and one which I have never before seen—that the tube is filled up with calcareous deposits. This woman recovered from the effects of the operation in a few weeks, and is now enjoying perfect health.

A disease, or rather a condition, frequently the result of congenital arrest of development, although occasionally arising as the result of inflammatory action, and known as infantile uterus, is one that has not received that attention which it deserves. In looking through what literature I possess, little mention is made of the subject. This is somewhat remarkable, for it is an anomaly sufficiently common to be quite distinctive. It is true, abnormalities in general, and defective developments of the female generative organs, have been investigated from an embryonal stand-point. Especially has this been done by Kussmaul and subsequently by others, who, however, based most of their hypotheses upon the works of Kussmaul. But the point I wish here to particularly emphasize is, that there is a condition of the uterus and appendages, of deficient development, that has clinical features and well-marked symptoms accompanying its presence, that has never yet been generally recognized by the profession as a peculiar feature of this lack of development; it is that it may not be general. As the uterus is made up of two entirely distinct parts, viz., the fundus and cervix, whose blood and nervous supply are entirely different and independent, so there can be a deficiency of development of the one with out the other being affected. Similarly, the tubes or ovaries may be infantile, and the fundus and cervix of normal size. When the error is limited to the body, the endometrium will retain its infantile state, and will not be in a fit condition for the adhesion or growth of a placenta; hence nearly all these cases remain sterile. The symptoms that accompany a typical case of infantile uterus are always pretty constant and characteristic. Generally, menstruation will be delayed in its onset, although it sometimes comes on at the usual time. When it does appear, it is scanty and irregular, and almost universally ushered in with a great deal of pain. This pain may be permanent, although it usually disappears for ten days or two weeks between each period. A remarkable fact about this pain, and one that is quite pathognomonic, is that it is most severe one or two days before menstruation sets in. The discharge will sometimes be so scanty as to be scarcely recognizable. When complete amenorrhœa appears, as it sometimes does, it is represented by moniminal symptoms, such as mucous discharge, pain down the back and thighs, vomiting, headache, and disturbances of digestion. If a patient comes complaining of a persistency of these symptoms, and especially if upon examination they can be verified by a small cervix or fundus, the diagnosis is complete. This, however, cannot always be accomplished. The treatment of this disease naturally suggests itself. It has been ascertained that nothing short of removal of the appendages, to hasten the menopause, has any effect upon such cases. The electric stem pessary has been tried and found disappointing. In patients of the wealthier class, who can afford to lie up ten days, or two weeks, and have what luxuries they choose, a miserable existence can be dragged along until the climacteric comes to their relief. It is otherwise with those who are obliged to depend upon their own exertions for a living, and he who will relieve their sufferings by an operation is doing a deed of charity. The difficulties of diagnosis, and the advantages derived from operative measures, are amply illustrated in a case of which I can here produce the specimen.

When I was under the teaching of Mr. Lawson Tait, a young lady, twenty-three years of age, married four years, was sent to him with the following history: She had no children. Ever since the onset of menstruation she had been suffering pain during her periods; as years went on this pain became more severe, and latterly was quite unbearable. It became necessary for her to lie up in bed, and to use morphia and hot applications to relieve her suffering. Since marriage the pain became more intensified. As a last resort she was sent to Mr. Tait for advice. No pathological condition from examination could be discovered, yet here was a woman whose existence was pitiable in the extreme. The physician under whose care she was had faithfully carried out all the usual remedies for such cases, and what his ingenuity could suggest besides, with no permanent benefit. The subjective evidence pointed so strongly to tubal disease that an exploratory incision was suggested. This was willingly consented to, as the woman was prepared to run any risk for relief. At the operation it was found that both tubes were quite inflamed, and much smaller than fully developed normal tubes. There were no fimbriated extremities. The outer part of each tube gradually diminished

in size, and blended into the folds of the broad ligament, where it became lost. They were removed together with the ovaries. The woman immediately regained excellent health, the pain entirely disappearing. From the fact that both tubes were similarly defective at their outer extremities, and both becoming lost in the broad ligament in the same manner, we concluded it was a congenital want of development, and not due to inflammatory action. Here was a woman laid up half her time suffering, life had become a burden to her, and the results clearly show that the operation was urgently demanded. Indeed, had it been done years ago, it would have been a blessing. Neither can it be said that she was unsexed, because, for obvious reasons, the ovum could not be grasped by the fimbriated extremities that never existed.

I do not, however, wish to be misunderstood upon this important matter. I do not advocate the radical idea that, whenever a pain or an ache is found to lodge for any length of time in a woman's pelvis, the surgeon should immediately rush with scalpel in hand and recommend an operation. Nor, indeed, would anyone in his sane senses think of such a thing. It has been this indecent haste by those who have had no special training, and who are incompetent to assume the responsibilities of such operations, but who are nevertheless led away by the seduction that hovers about the art of surgery, that has done much to impede the progress of this legitimate and honest branch of surgery. The evil results following operations done indiscriminately by men of unguided ambition, who recommend and perform them without sufficient knowledge of the subject, should not be laid at the door of the healing art; but rather look to those who, with too eager enthusiasm and wanting in the many fine points of diagnosis that can only be learned from experience, have not taken the time to sufficiently investigate the condition calling for operation. The more I see of abdominal surgery, the more convinced do I become that these operations should be left entirely in the hands of those specially prepared to do such work, and that they should not be done indiscriminately. What, therefore, would be perfectly justifiable for an experienced operator to do, would not be for the tyro. The experienced operator, who is familiar with the many doubtful symptoms, the complications and dangers that may be encountered at any moment, is prepared to meet them; whereas the general practitioner cannot be expected to be so. Measured by its brilliant results in the hands of experience and intelligence, abdominal surgery is the wonder of our profession. In the domain of removing diseased appendages for chronic incurable maladies, it has rescued many hundreds of women from a state of misery and pain to that of health and comfort. In the hands of those who have given this subject their sole attention and who know whereof they speak, the principle of resorting to an exploratory incision in suitable cases, after every other known means has been justly tried, is a necessary one for successful treatment.

Dr. Edis, of London, says on this subject: "There can be no doubt that thousands of women in the length and breadth of the land were suffering, as only women could suffer, whose condition was totally ignored or disregarded, and who were treated by purgatives, hot-water douches, caustics, pessaries, and what not, without deriving any but trivial benefits." He agreed with Mr. Tait that, when the symptoms justified their opening the abdomen, their duty was to do so. Formerly they merely tinkered about with pessaries, and their patients went unrelieved. He thought it ought to go forth that men in general practice ought not to allow their patients to continue for years to suffer, without having recourse to an operation which, on the whole, involved very little risk in competent hands.

Drs. Bantock, Barnes, Savage, and others hold strongly to the same view. Lawson Tait says that, in every case of disease of the abdomen or pelvis in which the health is destroyed or life threatened, and in which the condition is evidently not due to malignant disease, an exploration of the cavity should be made. Again, quite recently, he says, "Absolute accuracy of diagnosis in the abdomen is very far from being possible; only the ignorant assert that it is, and only fools wait for it."

It frequently happens that results of the most wonderful and marvellous kind follow an exploration, when nothing has been done but a drainage-tube left in. Thus, in enlarged spleen or liver with effusion, exploration is followed by a gradual diminution of the tumor and ultimate recovery. I have again seen a young lady, supposed, on exploration, to have malignant enlargement of the kidney. Nothing was done but a drainage-tube left in, and, to the amazement of all, she suddenly showed symptoms of improvement, and eventually returned to her home fully recovered. Why this is so I cannot say, any more than I cannot understand why papilloma, in two instances showing exactly the same features, are undistinguishable from each other under the microscope, is rapidly malignant and fatal in one, and is curable by mere exploration and drainage in the other; or why mere washing out of the abdominal cavity, with drainage, in tubercular peritonitis, is so frequently followed by a complete restoration to health. Persistent pain in the pelvis and enlargement of other organs are, beyond dispute, not infrequently cured in this inexplicable manner.

The greatest triumph, however, of this extended principle of exploration has been most apparent in those cases where tumors have been successfully removed, and our patients cured under circumstances apparently beyond the reach of hope, who were reduced to the lowest possible condition of health, and where the operation was begun under the belief that nothing promising or satisfactory could be accomplished.

Much of the success in the treatment of these complaints I have hurriedly enumerated is due to the fact of receiving them early. The "too late" cases form the great stumbling-block to successful treatment. It is pleasing to notice, however, that the profession generally are coming to recognize that all temporary procedures are to be condemned, as being the means of leading to distrust and complications. Let us, upon every occasion, exercise as much precaution and ingenuity as is possible against premature and unnecessary interference; but, on the other hand, let us liberate ourselves from the responsibility and stigma of being "too late."

Steele Block.

ANOTHER PECULIAR EFFECT OF COCAINE.

By J. W. STICKLER, M.D.,

orange, n. j.

Not infrequently there appear in the various medical journals articles upon the untoward effects of cocaine. Recently Dr. John A. Wissinger[1] calls attention to a very unpleasant experience he had with a fifteen per cent. solution of this drug. In this case the injection of ten minims of the above solution was followed by distressing dyspnœa, pallor of face, dilatation of pupils, spasm of the flexor muscles of arms and legs; pulse, 140, very small and wiry; respirations, 40 a minute; perspiration, profuse. Patient at no time unconscious. As the doctor says: "This is not a unique experience." Not as rare in the past as it ought to be in the future, for with these warning notes sounding in our ears, we should exercise such caution as will render the repetition of similar accidents almost impossible.

The case I am about to relate differs from the one just quoted, in that the patient's life was not jeopardized, but it has one feature which, so far as I know, has not been commented upon by any writer. The case is as follows: John D——, an adult, about thirty years of age, and in good general health, came to my office complaining of a severe tooth-ache.

Placing him in a chair before the laryngoscope, and examining the part complained of most carefully, I could

[1] New York Medical Journal, January 18, 1890.

not detect the slightest evidence of swelling. To relieve the intense pain I injected, hypodermically, in the cellular tissue between the cheek and gum, opposite the left wisdom-tooth, about five drops of a four per cent. solution of cocaine. Almost immediate relief from pain was experienced, but in less than five minutes the entire left side of the face became enormously swollen, tense, and painful. As I sat watching the patient I could see the swelling rapidly increase, indeed it was about like watching the inflation of a toy balloon or a foot-ball, it was so plainly manifest. The inner surface of the cheek projected so far into the oral cavity as to render perfect closure of the mouth utterly impossible. So rapid and extreme was the swelling of the soft parts, that I concluded I had punctured one of the larger blood-vessels, thus permitting a free outflow of blood into the loose connective tissue of the cheek.

In the course of an hour the pain became so intense, and the tension so great, that I determined to relieve him by operative measures, so certain was I that the swelling and tension were due to the escape of blood, which I supposed had coagulated, and could in that condition be easily removed. He was therefore anæsthetized, and an incision made through the mucous membrane of the cheek and the underlying tissues sufficiently deep and long to permit the introduction of the index-finger, with which I examined every part of the interior of the cheek without finding any evidence of the presence of a large blood-clot. To say that I was surprised is putting it mildly, for not only was the cheek enormously swollen and tense, but semifluctuating to the touch. The slight hemorrhage from the small vessels along the edges of the cut tissues diminished appreciably, for a few moments, the swelling of the cheek, but shortly after the wound made by the knife had been closed, the tension and swelling became as marked as before the operation. The further treatment of the case consisted in the use of liq. plumbi subacetat. et opii, locally applied. At the end of four days the swelling had almost entirely disappeared, leaving the skin discolored, presenting the appearance usually seen when the integument has been bruised. There was with the local swelling no systemic disturbance, differing in this regard from a case I reported some time ago. It is probably true that the swelling of the cheek, in this case, was due to the paralyzing effect of the cocaine upon the vaso-motor nerves, causing thus a dilatation of the blood-vessels with consequent intense congestion. Having had this experience, I would not again inject a solution of cocaine (even a four per cent. solution) into loose areolar connective tissue, in the region of the face, without, at least, informing the patient of the possible result, and I am quite confident that if my patient had known, prior to the injection, what he subsequently learned about the peculiar effect of cocaine upon him, he would have objected to its use.

I consider the employment of a ten per cent. or fifteen per cent. solution of cocaine both unnecessary and hazardous for the production of local anæsthesia, such as is necessary for the painless removal of small tumors. Cocaine is an agent of great power and usefulness, but one which must be used with great caution.

Salol in Gonorrhœa. — Dr. Dreyfous, of Paris, has treated seven cases of gonorrhœa with salol. The doses varied from 5, 7, to 8 grammes. The discharge was quickly made less abundant. In a recent case, in which gonorrhœa appeared some time before seeking advice, Dr. Dreyfous obtained a complete cure in a few days. He has tested the effect of salol administered alone, and in other instances he has given it simultaneously with copaiba and cubebs in order to hasten the cure. He recommends the use of salol to surgeons who operate on the urinary organs. According to him it renders urine aseptic, which is thus innocuous when in contact with raw surfaces.

THE COMPLICATIONS AND SEQUELÆ OF INFLUENZA.[1]

By WM. H. DRAPER, M.D.,

NEW YORK.

I SHALL devote the few remarks which I have to make in this discussion to a brief consideration of the complications and sequelæ of the epidemic influenza. These complications and sequelæ may be described for the most part as exaggerated expressions, or a more or less protracted persistence of the ordinary symptoms of the disease. They are, therefore, like the symptoms, divisible into two principal varieties: First those which are included in the sensory-motor derangements which result from the effect of the materies morbi, whatever it may be, upon the cerebro-spinal system; and, secondly, those which illustrate the manifold and severe lesions which the disease determines in the mucous membranes and parenchymatous tissues. Sometimes the disease manifests itself mainly by its cerebro-spinal symptoms, and sometimes the catarrhal lesions constitute its prominent feature; but commonly it presents a combination of more or less profound derangement of nervous functions with varied forms of catarrhal and parenchymatous affections. In many respects epidemic influenza presents striking analogies to the other infectious fevers, and notably, perhaps, as has been repeatedly observed, to epidemic cerebro-spinal meningitis. In its sudden and often violent mode of onset, in the variety and occasional intensity of its nervous symptoms, in its irregular febrile movement, in its manifold lesions and in its marked tendency to relapse, it certainly often reminds us of this form of epidemic meningitis. All the symptoms suggest irritation of the cerebro-spinal axis, more or less severe, and it seems probable that the lesions of epidemic influenza, like those of epidemic meningitis, are determined by vaso-motor derangement.

I have said that the complications of epidemic influenza are, as a rule, only exaggerated expressions of its ordinary symptoms. To the chill, headache, and more or less severe malaise, which commonly characterize the attack, there may be added delirium, and in children convulsions; cases have been reported which, in their onset, have been mistaken for meningitis. In some instances the nervous shock manifests itself by giddiness and faintness, with an abrupt and inexplicable failure of mental and muscular power which may surprise the victims on the street or at their occupations, and compel instant capitulation to this subtle and insidious disease. The mental hebitude which, in varying degrees, is a common phenomenon, may even assume the features of melancholia, and cases of suicide have been recorded in this as in previous epidemics. The muscular paresis is often so extreme as to render patients quite helpless. The sensory disturbances are at first more or less generalized in the form of cutaneous hyperæsthesia, muscular pains, and soreness. Definite neuralgias in the distribution of important nerve-trunks, though occasionally observed at the outset of the disease, are, I think, more often consecutive phenomena. These neuralgias affect especially the cervico-occipital, the trigeminal, the intercostal, the lumbo-abdominal, and the sciatic distributions. They often are intermittent, like the neuralgias of malarial origin, but without any regular periodicity. They are sometimes accompanied by exquisite tenderness along the course of the affected nerve, and are much aggravated by movement, two features which seem to indicate that the lesion which determines them is a perineuritis. A few cases have fallen under my notice in which the symptoms of an interstitial, and possibly even of a parenchymatous neuritis were present. In one case of this description, which occurred during convalescence from catarrhal pneumonia, the musculo-spiral and median nerves of the left arm were involved. Paralysis of the flexors and extensors of the forearm fol-

[1] Remarks made before the New York Academy of Medicine, February 6, 1890.

lowed, with considerable atrophy. A paretic condition of the limbs, following brachial and sciatic neuralgias, without ostensible atrophy, has been a common observation. I have not seen any trophic disturbances in the skin excepting in connection with the trigeminal neuralgias; conjunctival congestion, and herpetic eruptions about the mouth have been frequently observed. As a rule, I think the neuralgias occurring as sequelæ of influenza have been confined to the distribution of single nerve-trunks, to a branch of the trigeminal, generally the supra-orbital, of the brachial or sciatic plexus, or to an intercostal nerve on one side, though I have seen a number of cases of double sciatica, and one of multiple neuritis, which I believe to have been of influenzal origin.

A conspicuous feature of the nervous phenomena of influenza has been their protracted duration. This has been manifested frequently in the persistence of the neuralgias, and especially in a continuance for some weeks of muscular weakness, fatigue on slight exertion, mental depression, in a feeble and rapid pulse, and generally in a slow and halting recovery.

The complications of the catarrhal form have presented themselves most frequently in the respiratory tract. Cases of acute pharyngitis with intense congestion of the mucous membrane, extending sometimes into the Eustachian tube and causing otitis media, have not been uncommon. Laryngitis and tracheitis, accompanied by a paroxysmal, pertussis-like cough, have also been observed, complicated in such a way with the nervous symptoms of influenza as to leave no doubt of their specific origin. But the most serious and important complications of the catarrhal form of the disease have been bronchitis, broncho pneumonia, pleurisy, and pleuro-pneumonia. The peculiar feature of the bronchitis, in my experience, is that it has often been confined to one lung or to a portion of one lung. It has not usually been accompanied by much expectoration, but rather by feeble respiration with only occasional moist or dry râles on forced inspiration. The development of a lobular pneumonia from this condition has generally been slow, and the signs of consolidation often difficult to determine after the subjective signs have suggested its existence. A localized pleurisy is sometimes superadded to this condition.

In the cases of lobar pneumonia the onset of the disease has, I think, been as characteristic in its suddenness, and the progress of the consolidation has been as rapid, as is ordinarily observed in croupous-pneumonia. It has seemed to me that the pleuritic element in the severe cases has been unusually pronounced, the pain intense and widely distributed, and the tenderness of the costal and abdominal walls extreme. I have also noticed that even in cases of large pulmonary lesion the vital signs did not present the characteristic features which usually prevail in ordinary lobar pneumonia. The range of the temperature has not, as a rule, been so high and the pulse-respiration ratio has been more irregular. Defervescence has, in my observation, seemed to occur earlier and the resolution of the lesion to be slower. The slow resolution has been due in some cases to the pleuritic complication which, as I have before remarked, has been unusually severe.

The complicating lesions in the gastro-intestinal canal have not, in my experience, been common, but they have occurred with sufficient frequency in this and former epidemics of influenza to justify the statement that the disease may spend its force in this direction, and without the appearance of the usual pulmonary symptoms. In some instances the gastro-intestinal derangement has been so severe as to suggest the existence of typhoid fever, especially in the exceptional cases where the fever has continued for a week or longer, in connection with abdominal pain and tenderness, with gurgling in the ileo-cæcal region. In two such cases which I have seen the stools contained blood.

I have not observed any complications affecting the genito-urinary tract. Cases of cystitis and of acute uterine catarrh have been described, accompanied by the general constitutional disturbances which characterize the grip, and though one is too prone, perhaps, during the prevalence of such a disease to multiply its manifestations, it is not improbable that the morbid influence complicates, if it does not determine, a great variety of structural derangements.

Many observers in this and in former epidemics have described various forms of erythema complicating influenza. I have several times observed herpetic lesions, especially about the head and face, with œdema of the lids, associated with neuralgia, but I have probably overlooked the scarlatiniform eruption which has been reported in many cases. The occurrence of cutaneous, and even of arthritic, lesions in a disease which often exhibits such remarkable cerebral and peripheral nerve-irritation is certainly to be expected.

In conclusion, I have only to note the remarkable frequency of relapses in this disease, and also the fact, especially noted in hospital patients, that the relapse is more severe and accompanied by more serious lesions than the original attack. The tendency to relapse, while frequently the result of imprudence, has often been observed in those who have been carefully guarded against exertion or exposure.

From this brief and imperfect sketch of the complications and sequelæ of epidemic influenza it seems evident that the determining cause of the disease, whatever it may be, is one which spends its force, primarily and directly, upon the nervous system. Its most serious results have, as a rule, been observed in persons of advanced years, and in those who were enfeebled by previous disease or intemperate habits.

The relative mortality of the malady has, to be sure, not been large, but when we consider, apart from the mortality it has caused, the vast sum of human energy that it has destroyed, and the check that it has everywhere put upon the wheels of human industry, its effects have indeed been appalling.

Progress of Medical Science.

The Action of Remedies on Gonococci.—Dr. Friedheim, of Leipzig, has published an elaborate paper on this subject, a *résumé* of which appears in the *Provincial Medical Journal*, January 1, 1890. He had an exceptionally large material at his disposal, consisting of twelve hundred cases, in which he tried a great number of different remedies. For these experiments all fresh and all those cases which did not improve under previous treatment had been selected. Each injection was kept in the urethra for three minutes, the injections were repeated three times a day, and the quantity injected each time amounted to 500 minims. A trace of discharge was taken out from the depth of the urethra, by the aid of a platina loop, and examined microscopically on the presence and number of gonococci. The effect of the different remedies is as follows: Hydrarg. formamid. in a solution of 1 in 1,000 to 10,000 has a powerful germicidal action, but this is combined with signs of irritation in the urethra, dysuria, increased secretion; calomel, in a ten per cent. mixture, with fifteen grains of chloride of sodium, does not irritate so much, but also the germicidal action is less pronounced; salicylate of mercury, 1 in 270, with 1 chloride of soda, completely destroys the tocci, without much concomitant irritation; perchloride of mercury, even in solutions of 1 in 20,000, causes pains, and the antibacillary action is not great. Zinc, tannin, and lead solutions, in the usual concentrations, had no influence whatever on the cocci; subnitrate and salicylate of bismuth are not at all convenient for the treatment of acute gonorrhœa; it must be acknowledged that they lessen and liquefy the discharge, but they do not destroy the germs. Permanganate of potassium, in more concentrated solutions, kills the cocci, but highly irritates

the mucous membrane, the discharge becomes thinner, and the number of pus corpuscles decreases under the influence of weaker solutions. The following remedies were either found insufficient, or they acted on the cocci only when applied in such a high state of concentration that violent irritation of the urethral membrane was the immediate consequence: Nitric acid, 1 in 1,000; pyrogallic acid, 4 in 100; chloroform water, iodoform oil, one per cent. creasote, camomile tea, boracic acid, acetate of alum, antipyrin, resorcin, salicylate of soda, lime-water, naphthol, sozojodol-potassium-sodium-zinc, creolin (1 in 100), fluor-silicate of sodium, chloroborate of sodium, borax, Rotter's solution, sulphate and tartrate of thallium. The author subsequently recommends the nitrate-of-silver treatment of acute gonorrhœa, according to the following method: In acute gonorrhœa injections of a solution of nitrate of silver, 1 in 2,000 or 1 in 4,000 are at once installed, and repeated four to six times a day. The discharge, first abundant, becomes thinner after four days, and the number of gonococci decreases. The injections are now reduced to two or three a day, and soon replaced by astringent injections of zinc, tannic acid, or boracic acid. Secretion soon ceases, nearly completely. One injection of nitrate of silver is continued for many months. Strict diet is necessary at the commencement, but ordinary style of living may be enjoyed after some weeks. With delicate patients the number and concentration of the injections of nitrate of silver may be reduced, or injections of antipyrine or boracic acid are used, just before or immediately after the injections. Warm baths, calming suppositories, are frequently indicated. If nitrate of silver is not borne at all, it ought to be replaced by salicylate of mercury, chloroborate of sodium, thallin, etc. If this application is also inefficacious, the administration of internal remedies has to be resorted to. Of all kinds of internal medications for the said malady, he only believes in the benefit derived from large doses of copaiba balsam (up to twelve capsules per day, each containing ten grains of the balsam).

Henoch on Diphtheria.—Professor Henoch, the distinguished Berlin authority, has recently published his experience in one hundred and ninety-two cases of true diphtheria. In the February number of the *American Journal of the Medical Sciences* this paper is thus referred to: "Scarlatinal diphtheria he considers an affection entirely distinct from true diphtheria. There are certainly instances in which scarlatina and diphtheria are combined, but either the former has appeared in cases of diphtheria well under way, or in the stage of decline; or the latter affection has developed in the later stages of scarlatina; certainly after the third or fourth day. Only in such cases of scarlatina does diphtheritic paralysis appear. To distinguish diphtheria from angina lacunaris is often not possible until after continued observation. In some instances, indeed, it is impossible, namely, in those in which there occurs a deposition of fibrin in addition to the collection of pus in the depressions of the tonsils. In these cases the bacteriological examination would give certainty, if only we knew more accurately the nature of the bacillus and of the pathological anatomy of the affection. Diphtheria can, indeed, only be recognized positively when all or several of the cardinal symptoms are united; such as bilateral distribution of the membrane in the throat; involvement of the soft palate, uvula, etc.; albuminuria; involvement of the nasal cavities; contagiousness. Swelling of the glands and fever may appear in simple angina as well. In 110 of the cases the membrane was confined to the pharynx; in 82 it spread to the larynx, or still further down. In 12 of these latter, tracheotomy was not performed on account of various contra-indications, while of the remaining 70 on whom the operation was performed, 9 recovered—a percentage of 13. Many of the cases died of pneumonia, bronchitis, collapse, or heart failure, after the operation had apparently had a good result. Henoch attributes this low percentage of recoveries not to a severe form of the disease, but to the fact that more than half of the children were already suffering from different constitutional diseases, others were very poorly nourished, and many were quite young; while, in addition to these factors, the hygiene of the hospital was extremely bad. One great source of error in statistics is that writers include in them the cases of true croup, and thus greatly increase the apparent number of recoveries. Henoch has seen 36 cases of croup, of which 24 (66 per cent.) recovered after tracheotomy. Of the 110 cases of pharyngeal diphtheria, 32 died—a favorable percentage. The degree of fever proves nothing as to the severity of diphtheria. The swelling of the glands usually undergoes resolution; it is seldom that suppuration takes place as in scarlatina. The diphtheritic membrane is of prognostic significance. Membrane on the hard palate is an exceedingly unfavorable sign, while involvement of the cheeks, tongue, lips, genitals, and anus also makes the prognosis bad. On the other hand, the spread of the membrane to the nose is not especially unfavorable even in bad cases. Diphtheritic nephritis appears from the third to the fifth day, and is characterized by tube-casts, epithelium, and a few red blood-cells; in contra-distinction to scarlatina, in which the number of blood-cells is large. The appearance of albumin not until a later period of the disease is very unusual, and cannot be affirmed unless the presence of scarlatina or the persistence of an early albuminuria can be absolutely excluded. Henoch has seen this late nephritis but twice. Œdema is much rarer than in scarlatina; uræmia is very exceptional; affection of the joints has come to his observation but once. A croupy cough and stridor form no indications whatever for tracheotomy. The author has tried various methods of treatment, and found them all useless in severe cases."

Periodic Gastrorrhœa.—Dr. Steinberg gives an account of a remarkable case of periodic gastrorrhœa occurring in a military officer, aged forty-five. The patient was suddenly seized with a series of attacks of violent vomiting coming on every forty to sixty minutes, each attack being preceded by severe nausea and headache, which symptoms disappeared immediately after the contents of the stomach had been rejected. The vomit consisted of a greenish watery fluid, containing 0.17 to 0.21 per cent. of free hydrochloric acid and a very little mucus, but no traces of food. There was no abdominal pain or tenderness. On inquiry it was found that the patient had been subject to attacks of this nature at long intervals for several years. There were signs of lesion of the posterior columns of the cord, but these were limited to Westphal's and Romberg's phenomena, and there was no ataxy; thus the diagnosis was made of periodic gastrorrhœa in a tabetic subject rather than that of gastric crisis in an ataxic subject.—*The British Medical Journal.*

Large Doses of Arsenic in Lymphadenoma.—At a late discussion at the Paris Academy of Medicine, M. Reclus read notes on eight cases of cervical lymphadenoma treated by large doses of arsenic. The initial dose given was ten drops of Fowler's solution, which was given daily, gradually increased; interstitial injections were also given every two days. The solution was mixed with an equal quantity of water, and the dose gradually increased to twenty drops. Three patients thus treated were cured; three died rapidly; with the two others the treatment had to be discontinued. M. Berger stated that he had often seen in Dolbeau's wards examples of relapse after removing glands, and personally had always found internal arsenical treatment joined to interstitial injections satisfactory. In three cases, one exhibited great improvement, the other two patients died. M. Terrier is also in favor of arsenical treatment of lymphadenoma when limited to internal treatment. He condemns the practice of interstitial injections, and prefers making an incision, which he deems necessary in order to be certain of arriving at a true diagnosis.—*The British Medical Journal.*

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THE SYMPTOMS OF DISEASE OF THE PANCREAS.

CONSIDERABLE interest has been excited in the subject of diseases and injuries of the pancreas by the contributions of Senn and of Fitz in this country, and by those of Lancereaux, Minkowski, and von Mering, and others in Europe. The pancreas is an organ which is rarely subject to organic disease, or to injury; nevertheless, it is not entirely free from ills, and it is likely that minor and functional disorders are not so very rare.

In a recent review of this subject by M. F. de Grandmaison (*Gazette des Hopitaux*, January 4, 1890), the following diseases are said to affect the pancreas: Acute and chronic pancreatitis, abscess, lithiasis, apoplexies, and tumors, including cysts. To this may be added lipomatosis, degenerative atrophies, disorders secondary to compression, and functional affections.

Of these somewhat numerous affections, it is only chronic pancreatitis, lithiasis, tumors, and perhaps functional or secondary disorders from compression that can be at present recognized. All the acute disorders, except perhaps abscess, are practically unrecognizable. The cardinal symptoms of pancreatic disease are stearrhœa, glycosuria, phenomena of compression, and rapid emaciation.

The stearrhœa was first noted as a symptom of impaired function of the pancreas by Cl. Bernard, who produced it by experiments on animals. It has also been noted clinically by Kuntzmann, Bright, Unckel, Ancelet, and others. Sometimes there is associated with it fatty vomiting. The fatty stools persist even when fat has been withdrawn from the food. However, stearrhœa may be absent in severe pancreatic disease, and it is not by any means a pathognomonic sign.

Glycosuria has been produced experimentally in animals by destruction or injury of the pancreas, and according to Lancereaux and his pupil Lapierre, it may be an evidence of pancreatic disease. M. Lancereaux, indeed, asserts that there are three forms of diabetes, viz.: (1) The nervous, (2) that occurring in the obese, and (3) the emaciative form, the latter being due to chronic pancreatitis or pancreatic lithiasis.

The nervous form of diabetes results from emotional shocks, traumatism, combined with lithæmic states, and it is usually temporary. It is, in fact, a glycosuria of symptomatic character only. The diabetes of the obese is the more common form; it comes on slowly and progresses slowly.

The diabetes with emaciation comes on suddenly, the patients rapidly lose weight, the amount of sugar in the urine is large (50 to 85 grammes daily), and the duration of the disease is not long, the patients dying usually of tuberculosis. The skin is rough and dry, but the boils and carbuncles which occur in the diabetes of the fat are not observed here.

The symptoms of pancreatic disease due to compression are chiefly those resulting from compression of the bile duct. The gall-bladder is distended, the liver remaining of normal size, and icterus gradually develops.

The general symptoms in organic pancreatic disease are those of cachexia and great emaciation. Often there is epigastric pain and intestinal dyspepsia, with much flatulence and loose stools.

As for the special significance of the above symptoms we are still much in the dark. Stearrhœa, we are told, is rare in pancreatic lithiasis, but more common in primary cancer of the head of the pancreas.

Diabetes with rapid emaciation, if indicative of any pancreatic disease, points rather to lithiasis and secondary pancreatic inflammation and degeneration.

THE CASE OF DR. MARY A. DIXON JONES.

THE case of Dr. Mary A. Dixon Jones, of Brooklyn, to which attention has been previously directed, has excited a great deal of interest in professional circles pending the issues in a trial for manslaughter, charged to the unfortunate termination of a capital operation for the removal of a diseased ovary. The original indictment of the Grand Jury of Kings County was founded upon a series of baseless charges, persistently reiterated in a Brooklyn journal of large circulation, bearing upon unskilful treatment of the case, wilful and culpable neglect of the ordinary obligations of humanity, and dark, mysterious, and even murderous doings in the management of the hospital with which she is connected. All these allegations, absurd as they were, inflamed the public mind against the doctor, almost ruining a hitherto untarnished reputation. When, however, the case came to trial the real facts were brought out, and an unqualified and triumphant acquittal was the result.

At the opening of the trial the prosecution abandoned its charge that the operation had been improperly performed, and consented to the discharge of her son, Dr. Charles Dixon Jones, who had been conjointedly indicted. An attempt was then made to prove that the patient was compelled to leave the hospital in a dying condition, from septic peritonitis, be drawn to her home over a rough road, on a stormy night, and that death ensued in consequence thereof within a few hours afterward. Testimony offered on these point by the friendss of the dead patient was clearly prejudiced, and in essential particulars was entirely unsupported by facts. The latter, as presented in the defence, showed that the operation had been urgently demanded by the patient; that it had been skilfully performed, under strict antiseptic precautions; that septic peritonitis ensued, in spite of every care to the contrary; that the patient and her friends demanded removal from the hospital; that Dr. Jones protested, on account of the danger attending such transfer, and that when compelled to accede to the request volunteered to diminish the risk

by accompanying the patient and watching her condition during the ride. The influence of this journey in producing death was embodied in any hypothetical question submitted to the surgical experts. Those on the side of the prosecution replied in the affirmative, and, strangely, the one most positive in his answer was he who had no experience in surgical cases. The answer on the part of the defence was somewhat qualified, although none denied that the removal might not have hastened death. It was proven, however, the carriage trip did not show any immediate bad results.

Even the defendant herself was willing to admit that such a journey was very likely to be attended with bad results, but that she was, under the circumstances, powerless to prevent it.

The learned judge, in ably and impartially charging the jury, accentuated these points, and the unanimous verdict of not guilty was rendered accordingly.

The lessons of this case are not few and unimportant. We have here an instance of indictment against a reputable physician, based upon mere public clamor, originating in anonymous and unfounded charges in a daily paper. At the trial we find, when all the facts were sifted, that, instead of being a fraud, an unskilful physician, and little short of a murderess, the defendant at the worst was guilty of a simple error of judgment in consenting to the transfer.

A discussion of the medico-legal points in this remarkable case has a far-reaching significance as relating to similar ones which may occur in the practice of any physician or surgeon. Although, fortunately and very properly, there was a unanimous verdict for the defendant, the aspect of the case would have been serious indeed if a contrary decision had been given by the jury. The fact that the question was raised at all showed how closely the chances were balanced against the establishment of a dangerous precedent. Had the verdict been against the defendant, a death-blow would have been aimed at progressive surgery. If the surgeon, assuming, as he necessarily does, grave responsibilities, should be held accountable for errors of professional judgment, thousands of operations which are now undertaken for the saving of human lives would be abandoned. The desperate cases, which would require desperate remedies, would necessarily die unrelieved, in fear of suits for malpractice, if not for actual manslaughter. Even the commoner injuries would be hesitatingly treated, in fear of legal consequences; and the maimed, the halt, and the blind would be present everywhere to mock the high and noble resources of our art. As it is, we congratulate Dr. Jones, and the profession at large, that we again touch solid ground, and are enabled to vindicate our rights for protection in the freest possible use of individual judgment in the treatment of our cases.

Dr. Jones, in the trying ordeal to which she was subjected, not only showed herself to be a skilful surgeon, but an admirable witness for the profession, in proving its resources, emphasizing its achievements, and upholding its dignity.

A PROPOSED NEW LUNACY LAW.

There is now before the Legislature a bill which proposes greatly to modify the present statutes regarding the commitment and care of the insane. This bill passed the Legislature at its last session, but owing to the sharp protest of the Neurological Society and of several physicians and lawyers in this city it failed to get the Governor's signature.

The bill has now undergone careful revision by a committee of the New York Neurological Society, working in conjunction with the late Commissioner of Lunacy, Dr. Stephen Smith. As modified it contains a number of improvements in the regulations for committing and caring for the insane. The mode of committal is not greatly changed, but a form is given which must be filled up by the examining physicians, and this form will give much more explicit information regarding the symptoms of the case than was obtained by the old plan.

One recommendation made by the committee of the Neurological Society ought to be added to the bill. It is to the effect that there should be a section in the law permitting any higher justice, upon application from any patient in an asylum, to appoint at his discretion a commission of two or three physicians to examine the patient as to his mental condition, and upon receiving their report favorable thereto, to discharge him from the custody of the asylum. By the Laws of 1889, chap. 283, § 22, the State Commission in Lunacy is empowered to make such regulations as to the correspondence of patients as would insure the proper carrying out of this law.

By this means the committed patients would always have a means of securing an investigation of their case.

PHYSICIANS DID NOT CONCEAL A MURDER.

Our attention has been called to an item, copied in the Record from the *Times*, in which it was charged that Drs. MacNichol and Williamson, of Westchester, N. Y., under the influence of a secret order of Irishmen, had given a certificate that a man, supposed to have been murdered, had died of acute congestion and œdema of the lungs, when it was subsequently shown that there was a bullet-wound of the peritoneum. This is flatly contradicted by Dr. MacNichol in an explanatory letter to the Record, from which we willingly quote, in justice to him, giving due prominence to his vindication. He writes:

"I refrained at that date from giving a contradiction to the *Times*, because I calmly awaited vindication in the courts, and thus far I have been fully gratified. At the preliminary hearing the Grand Jury passed over the various degrees of murder, and indicted for manslaughter in the lowest degree, which verdict, without trial, permits of one year's imprisonment; the bail being fixed at $1,000.

"The above decision was given, notwithstanding the unscrupulous efforts of a self-advertising combination, which spread the *Times*' article, its own manufacture, over Westchester County, and appealed to the vilest passions of race and religion in order to procure an indictment for murder in the first degree. This action could not but have exercised a certain amount of influence, but happily not sufficient to make men forget the principles of equity.

"The above rendering of the Grand Jury was given but a line in an obscure corner of the *Times*, which had devoted columns to an outrageous attack. This I deem sufficient answer to the first charge; because, if the

Grand Jury did not indict for murder, by what authority is it said that physicians concealed a murder?

"On December 20th the family of the injured man sent their attendant physician to me, strongly urging me to see their son in consultation. Having previous engagements I was forced to decline, but one of my own family, through sympathy with the afflicted ones, lending her entreaties to theirs, I consented to forego other and more lucrative appointments, and met Dr. Williamson in consultation at the house of the Rusks.

"My connection with the case, therefore, was due to the influence of no secret society of Irishmen, as stated, but solely to the urgent solicitations of the Rusk family and their friends. Here, in passing, allow me to say, that I belong to no societies other than medical.

"The result of the first autopsy, without going into details previous to the trial, verified the diagnosis made by me on my first visit, viz., that the wound was a non-penetrating one; that the intestines had not been perforated; that peritonitis did not exist; but that the immediate cause of death had been acute congestion and œdema of the lungs.

"Upon the findings of the second autopsy, made almost weeks after death by 'the well known pathologist' whose street and house-number appear so innocently linked together in the public press, office hours alone omitted, and who proclaims post-mortem wounds to be bullet-wounds, etc., a stronger light shall be cast on the day of trial than will be considered favorable to their peculiar form of truth and beauty.

"It might interest your readers to learn that a third autopsy, the body having been buried nearly two months, has just been made. A newspaper of the place, which we hand you, commenting on this action, says: 'It seems that the prosecution must feel the weakness of their case from the testimony adduced before the Grand Jury last week.' And again: 'The men who were the instigators of such notoriety are commencing to feel that their pet schemes are about to be blasted at the trial of the case, and are seeking for some more manufactured testimony to help them out of their difficulty.'"

News of the Week.

Searching a Medical College for Anatomical Material.—The Tennessee Medical College has lately been subjected to several searches by officers armed with search-warrants for the discovery of bodies alleged to be under dissection. Becoming tired of the annoyance, the college has applied for an injunction against the justices issuing any more search-warrants, on the ground, among others, that such warrants would not apply to dead bodies as "property." The college purposes to see if the private apartments of the institution are to be thrown open to the curious gaze of the indiscriminate public.—*Boston Medical and Surgical Journal.*

The Definition of a Homœopath.—The Medical Board of Ward's Island Hospital have adopted the following resolution: "*Resolved*, That in the opinion of this board the only requirement as to belief and practice of a physician should be as follows: That in common with other existing associations which have for their object investigations and other labors which may contribute to the promotion of medical science, we hereby declare that we firmly believe the principle *similia similibus curantur* to contribute the best general guide in the selection of remedies, and that we fully intend to carry out this principle to the best of our ability; yet this belief should not deter us from recognizing and making use of the results of any experience, and we shall exercise and defend the inviolable right of every educated physician to make use of any established principle in medical science, or any therapeutic fact founded on experiments, and verified by experience, so far as in his individual judgment they shall tend to promote the welfare of those under his professional care."

Just now, says the *Memphis Medical Monthly*, people are forcibly reminded of Tennyson's pathetic lines: "A sneeze that is all a sneeze may be met and fought out right, but a sneeze that is part of the grip is a harder matter to fight."

Normal Weight of Man.—A rule to determine the normal weight of man is as follows: A man should weigh just as many kilograms as he measures centimetres in height after deducting one metre. A man who measures in height 1 metre 80 centimetres (5 ft. 11 in.) should weigh 80 kilograms, or about 160 pounds. The rule is both ingenious and approximately correct.

A Doctor Sues a Druggist.—Dr. Samuel J. Leggett, a Philadelphia physician, wrote the following prescription: "Potass. bromide, two drachms; tincture aconite root, twelve drops; sweet spirits of nitre, two drachms; sulphate of morphia, one and one-half grain; peppermint water, half-ounce; simple syrup sufficient to make three ounces." Of this the patient was directed to take two teaspoonfuls every two hours, in water. This was handed to the druggist by the patient, but the druggist refused to put it up, saying that it would poison her by forming an insoluble hydrobromate. Dr. Leggett brings suit for $20,000 against the druggist, for injury to character and reputation; asserting that the prescription was a proper one.

Dr. Bissett, surgeon of the steamship Bolivia, which arrived on February 22d, from Mediterranean ports, died on February 13th, of influenza, and was buried at sea. He was a native of Moray, Scotland, and was twenty-eight years of age.

Dr. C. C. Perry, formerly connected with the Department of Agriculture in Washington, and well known as a botanist and physician, died on February 20th, in Davenport, Ia. He was sixty-seven years of age.

The Influenza is slowly making its way down through Mexico and Yucatan to the Central American States. It has not yet made its appearance in the West India Islands.

The Centralblatt für Nervenheilkunde has ceased to exist, the cause of its death being the retirement of the editor, Dr. Erlenmeyer.

A Hospital for Sick and Lame Animals has been established in Calcutta, and it is proposed to open in connection with it a veterinary school. A similar institution has existed for some time in Bombay.

A Ton and a Quarter of Bromides are annually consumed by the patients of the National Hospital for the Paralyzed and Epileptic in London.

The Paris Academy of Medicine, after a long and stormy debate, has adopted the following resolution regarding tuberculosis: "Tuberculosis is a parasitic and contagious disease. The microbic agent of the contagion especially resides in the dust produced by the dried sputa of phthisical subjects, and by the pus of tuberculous wounds. The safest measure for preventing contagion consists, therefore, in destroying these sputa and pus, before their desiccation, by means of boiling water or by fire. The parasite is also occasionally found in the milk of tuberculous cows; it is therefore prudent not to use any milk until it has been boiled. The Academy calls the attention of competent authorities to the dangers arising from the presence of tuberculous subjects in lycées, barracks, state offices, workshops, etc."

The Monad of Influenza.—Professor Klebs, of Zurich (*Centralbl. f. Bakter.*, vii., No. 5, *The Lancet*), gives the results of his examination of the blood in cases of influenza. He finds a large number of highly refractile, mobile bodies, in size, form, and motility resembling bodies which he has met with in pernicious anæmia, but in far less quantity. Moreover, no microcytes, such as occur in the latter disease, were to be seen. In a fatal case of influenza some blood was removed from the heart, with every precaution to avoid contamination, and the "monads" were detected therein; they varied somewhat in size, being oval in shape, and not only had vibratory movement, but were also capable of locomotion. They were often attached to the margin or embedded in the substance of the blood-corpuscles. The organisms were distinctly flagellated, and in stained preparations their intimate connection with the corpuscles could be plainly shown. Provisionally, Professor Klebs would assign them a place among the Rhizomastigma of the Monadineæ, according to Bütschli's classification of these protozoal forms. The professor remarks that in other diseases in which similar hæmatozoa have been discovered, as ague and pernicious anæmia, there is a tendency to intermittency in the type of fever; and since influenza shows a like tendency—commonly styled relapse—he thinks it quite possible that such "relapse" is associated with stages in the development of the micro-organism.

The Society for Instruction in First Aid to the Injured has just issued its regular report for 1889. This organization has been in existence since 1882, and has accomplished, first and last, much good. The latest report of the Society shows that, during 1889, no less than twenty courses of lectures, pay and free, were given to members of the Police Department, to railroad employees, working girls' clubs, and others.

The Ninth German Congress of Internal Medicine meets in Vienna April 15–18, under the presidency of Professor Nothnagel. The treatment of empyema and of chronic nephritis are among the subjects to be discussed.

The Physicians of the State of Virginia are annually taxed from $30,000 to $35,000 for the privilege of pursuing their daily avocations. The tax is in the form of an annual license fee.

Doctors and the Notification of Infectious Diseases.—The City Council of Chester, Pa., months ago passed an ordinance requiring all doctors to make a monthly report of births and deaths, fixing a penalty of $50 for each failure. The City Clerk reports not one of the thirty doctors complying with the ordinance.

France and the International Congress.—M. Henri Huchard (*Revue Générale de Clinique et de Thérapeutique*), in noting the receipt of invitations to take part in the Congress to be held at Berlin in August, says that many of his *confrères* have replied in the negative to the question: "Ought we to take part in this congress?" For his own part he declares that French physicians may and ought to participate in it, and he replies to those who justify their abstention from patriotic motives by an appeal to France to take her scientific rank among other nations. He does not know what reception will be awarded them, but he is persuaded that France should make her presence and her scientific labors known in an *international* congress.

Grave-robbing by Kentucky Physicians.—A startling story comes from Louisville, Ky., to the effect that two physicians of that city have been caught robbing graves. A negro who was in their company was killed. We trust that the story is not true.

The Cause of Death by Chloroform.—In the *Medical News* of February 22, 1890, Drs. H. C. Wood and H. A. Hare publish an article in which they strongly antagonize the conclusions of the Hyderabad commission as to the cause of death from chloroform. They assert that numerous experiments upon dogs, made in past years, have shown conclusively that chloroform may cause sudden death by paralyzing the heart, and maintain the view that when chloroform is given to the lower animals in a very dilute form, and gradually pushed, it causes, by its action upon the nerve-centres, a paralytic relaxation of the muscles, and at last death by paralysis of the respiratory centres; but that, when it is administered freely in concentrated vapor by inhalation, or when it is injected in sufficient amount into the jugular vein, it kills by a paralytic arrest of the heart, the viscus stopping suddenly in its beat, and being found after death relaxed and incapable of reacting to stimuli. It has, they say, generally been believed that the danger from cardiac arrest by chloroform increases in direct ratio with the rapidity of administration; but that in animals, as well as in man, cardiac arrest sometimes occurs almost at once on the inhalation of the anæsthetic in small amounts; or, in other words, that comparatively small amounts of chloroform have at times caused death by syncope, through direct action upon the heart. They further assert that the evidence of the Hyderabad commission is all negative, and that positive evidence, even in small amount, quite counteracts it. The death of half a dozen American dogs by cardiac paralysis proves more than the death of four hundred pariah dogs by respiratory paralysis.

Another Death from Ether.—Dr. W. F. Westmoreland, of Atlanta, Ga., had a patient die from the effects of ether, while operating for fistula in ano, about ten days ago. He will give a detailed account of it in our next issue.

Medical Practitioners in Germany.—The number of medical practitioners is increasing at a rate quite disproportionate to the growth of the population. In 1889 the total number of doctors in the German Empire was 18,467, as against 17,690 in 1888, and 16,864 in 1887. The increase in 1889, as compared with the previous year, was at the rate of 4.4 per cent.—about five times that of the general population. The increase in the number of legally qualified dentists was still more remarkable, there having been 659 in 1889, as against 570 in 1888, and 514 in 1887, showing a rate of increase last year of not less than 15.6 per cent.

The late Professor Botkin.—It has been decided to honor the memory of the late Professor Botkin in the way which he himself would no doubt have chosen. A home for destitute medical men and for their widows and orphans is to be established in St. Petersburg; it will be called the *Botkin-Haus*.

A Medical Association in Chili.—Steps are being taken to organize a Medical Association in Chili. It is intended to include all the medical practitioners in the country. The object of the Association is "to give help to all members of the profession or to their families as often as they are in need of it." It has also been decided to form a Medical Association in Cuba.

Anecdote of Sir William Gull.—A correspondent of the *London Times* relates the following anecdote, which shows that Sir William Gull possessed a kindliness of heart only rarely met with in this money-getting age: "Some years ago a gentleman, whose failing health was coincident with failing fortune, consulted Gull. For a while the remedies were of use, but one day the patient presented himself looking so much worse that Sir William had to seek for a special cause. The explanation was adequate: 'I have been obliged to call my creditors together;' whereupon the great physician wrote a cheque for all past fees—about thirty guineas—and, putting it into his patient's hands with the other prescription, said simply: 'Perhaps that will help you more than the medicine to-day, but pray take them both.'"

What Can be Done in a Great Hospital.—The *Wallace Free Press*, Idaho, says: "Wesley Everett, who went to Bellevue Hospital, New York, recently, to have an ovarian tumor taken from his side, writes from that institution to his brother Frank, here, that he is feeling first rate since the operation was performed, and expects to be able to travel in a short time."

The Kings County Medical Association held their monthly meeting in Brooklyn, on Friday evening the 14th inst. Dr. Edward R. Squibb, the retiring President, read an elaborate paper on "The Approaching Revision of the United States Pharmacopœia." The following gentlemen were admitted to membership: Dr. A. B. Callender, Dr. Nelson L. North, Dr. Clarence Thwing, and Dr. Jonathan Wright. Drs. B. W. Waterman and J. del Risco were proposed for election. A resolution of esteem for ex President Squibb was presented by the President elect, Dr. Wm. McCullom, and unanimously adopted.

A New Hospital has just been completed at Bayonne, N. J. It contains about forty beds, and is well equipped with all modern conveniences.

Doctor's Signs.—In Paris, it has long been the habit of first-class physicians not to allow the slightest kind of publicity; this they carry to such an extent that it is difficult to find them, even if you know the street and number where they live, as they never put the slightest kind of a name-plate at the street door, nor on the door of their apartments. In the poor quarters of Paris, is sometimes seen a sign saying, *Docteur-Médecin*, but this is all; the name of the doctor is not put out, only the indication that a medical doctor lives in the house. This class of practitioner is understood to be of the cheap order, or one whose fees are small. What is curious in Paris is, that a man's name is never, in any class of physicians, displayed on a sign.—Correspondence of *Meaical Times and Register*.

Boston Cars and Boston Sewers.—W. R. Nichols, of Boston, found more than twice as much deadly carbonic acid gas in the air of passenger cars than in the Berkeley Street sewer.

The County Medical Society Vindicated.—Three suits for damages which Dr. Charles F. Kreizer had brought against the counsel and agent of the Medical Society of the County of New York, have been discontinued at the request of the plaintiff. Two of these actions—for false imprisonment—were brought in the Supreme Court, and one for malicious prosecution was brought in the Superior Court, and in them Dr. Kreizer sought an aggregate of $30,000 damages. Dr. Kreizer was arrested upon a charge of felony under the Medical act, in advertising under the false name of Kriger. He was indicted on this charge, but claimed that he did not intentionally use the false name, and that it was a misprint which, after vainly endeavoring to correct, he finally accepted. The Society gave him the benefit of the doubt, and consented to the dismissal of the indictment, whereupon Dr. Kreizer brought his suit.

A Malpractice Suit, resulting in the unsuccessful attempt of two lawyers to cowhide a medical editor, has been the sensation in medico-legal circles in Cincinnati recently.

Reviews and Notices of Books.

A Handbook of Diseases of Women, Including Diseases of the Bladder and Urethra. By Dr. F. Winckel. American edition, edited by Dr. Theophilus Parvin, M.D., Philadelphia. 8vo, pp. 766. Philadelphia: P. Blakiston, Son & Co. 1889.

The work of translation has been done by J. H. Williamson, of Allegheny, Pa., in a creditable manner. Winckel's work has met with a favorable reception on both sides of the Atlantic, and the American edition has already become a favorite with both practitioners and students. As is the case with most foreign treatises, the description of the diseases of each organ is preceded by an account of its embryological development. Etiology therefore receives its logical place, and there results a systematic explanation of each malady. A most admirable and elaborate table of contents, and a full index, render the book an easy one to use. It is complete and concise. It is out of place here to attempt to combat any of the author's individual ideas, as among gynecologists there often exists the widest divergence of ideas. But we have no hesitation in pronouncing a favorable verdict upon the work, the scholarship of which is above criticism.

A Hand-book of Dermatology for Students. By A. H. Ohmann-Dumesnil, M.D. Pp. 167. St. Louis: St. Louis Medical and Surgical Journal Publishing Company.

This pocket manual is a syllabus of the lectures delivered in one of the St. Louis colleges. The cuts are surprisingly good for a work of this kind, while the text is brief and to the point.

Original Investigations of Cattle Diseases in Nebraska, 1886–1888. By Frank S. Billings, Director State Patho-Biological Laboratory. Lincoln: State Journal Co. 1889.

The various parts of this book have previously been issued in the form of bulletins. The various diseases discussed are Texas fever, the corn-stalk disease, "hydrophobia" in cattle, "contagious diseases of the cornea," etc. It contains much interesting material, but is, unfortunately, very controversial in tone.

The Medical News Visiting-List. 1890. Philadelphia: Lea Brothers & Co. 1889.

Among the visiting-lists that are annually offered to the medical public, this is one of the most popular. It is of convenient size, and the text contains much matter that may prove valuable for speedy reference.

Foods for the Fat. A Treatise on Corpulency and a Dietary for its Cure. By Nathaniel Edward Davies, M.R.C.S. English-American edition, edited by Charles W. Greene, M.A., M.D. 12mo, pp. 138. Philadelphia: J. B. Lippincott Co. 1889.

This little book goes over ground often trodden before, advocating the physiological treatment of obesity by dietetic regulations concerning the use of the carbo-hydrates. It contains excellent dietary tables, although a great many readers will hardly believe that saccharine is better and sweeter than sugar.

Essentials of Materia Medica and Therapeutics (Saunders' Question-Compend Series). By Henry Morris, M.D., etc. Philadelphia: W. B. Saunders. 1889.

In this students' manual are set forth the principal facts concerning this branch of medical study. It well sustains the reputation of its predecessors in the same series.

Mother, Nurse, and Infant. A Manual especially adapted for the Guidance of Mothers and Monthly Nurses. By S. P. Sackett, M.D., Ithaca, N. Y. 12mo, pp. 386. New York: H. Campbell & Co. 1889.

The author has shown a commendable desire to educate the nurse and mother regarding the requirements of child-bearing, surgical accidents, and the more common diseases. In all this he has succeeded reasonably well. The mother and nurse will find much in this book which it is worth while to know, but also much which it is not necessary to know. In the latter regard the author has shown lack of judgment in trying to teach some of the more technical points in medicine, which are impossible of comprehension to ordinary people. In his efforts to give hints as to prescribing even powerful remedies, as aconite, veratrum viride, morphine, etc., he oversteps the bounds of prudence. For instance, what right has a mother or nurse to attempt anæsthesia with chloroform when only a paragraph is devoted to the teaching? Then the prescriptions given are open to serious criticism as entirely uncalled for. Again, there must have been some very careless proof-reading, otherwise we would not find the genitive, nominative, and accusative cases so ridiculously mixed; and why attempt Latin at all? We are somewhat shocked to see such spelling as post partem, suppositary, meningetis, albumanoid occurring repeatedly throughout the work.

The Electric Illumination of the Bladder and Urethra. By E. Harry Fenwick, F.R.C.S., Eng. Second edition. 8vo, pp. 271. London: J. & A. Churchill. 1889.

The second edition of this useful work comes to us profusely illustrated, very much enlarged, and almost entirely rewritten. In it are now incorporated a large number of practical illustrations of the value of electric illumination of the bladder and urethra in the diagnosis of obscure vesico-urethral diseases. The cystoscope used by the author is a modification of the Nitze-Leister instrument, and appears to be admirably adapted to its purpose in studying the interior of the bladder and urethra in all of the various diseased conditions of those organs. His remarks on the methods of examination are very practical and intelligible, and open up an entirely new field in genito-urinary surgery.

Transactions of the Association of American Physicians. Vol. IV. 8vo, pp. 378. Philadelphia. 1889.

The fourth volume of the Transactions of this Association adds another valuable one to our current literature. In it are presented interesting papers upon general paralysis, tetany, thrombosis, chylous diseases, chlorosis and allied blood diseases, gastric neurasthenia, diphtheria, and diseases of the renal and gastro-intestinal apparatus.

A Manual of Obstetrics. By A. F. A. King, A.M., M.D., Professor of Obstetrics and Diseases of Women and Children, Medical Department Columbian University, Washington, D.C. Fourth edition. 12mo, pp. 430. Philadelphia: Lea Brothers & Co. 1889.

In the present edition of this excellent and practical work two new chapters have been added on the subjects of intercurrent diseases of pregnancy and resuscitation of still-born children. Numerous new illustrations have also been introduced.

Papers Read before the Medico-Legal Society of New York from its Organization. First series. Medico-Legal Journal Association, Publishers. 8vo, pp. 552. New York. 1889.

This is a well-printed volume of the more important papers read before the Medico-Legal Society, and covers a variety of subjects bearing upon crime, insanity, life insurance, etc., studied from the stand-points of medical jurisprudence. It is embellished by portraits of distinguished members, some of whom are still living.

A Compend of Human Physiology. By Albert P. Brubaker, M.D. Philadelphia: P. Blakiston, Son & Co. 1889.

This book is now in its fifth edition, which has been revised and contains a table of "physiological constants." We have personal knowledge that it is highly prized by students. Its text and illustrations are both excellent.

A Guide to the Diseases of Children. By James Frederick Goodhart, M.D., Physician to Guy's Hospital, etc. Revised and edited by Louis Starr, M.D. Second American from third English edition, pp. 771. Philadelphia: P. Blakiston, Son & Co. 1889.

In this edition the principal changes are a rearrangement of matter, the insertion of typical temperature charts, and a special elaboration of the subject of "Feeding Infants and Children." The great feature of Dr. Goodhart's work is the close resemblance of the text to actual bedside teaching. In this line it has achieved pre-eminent success. We commended highly the first edition, and considerable subsequent experience with it has only enhanced the opinions then expressed. We know of no text-book on pediatrics which, for plain common-sense, is its superior.

Wood's Medical and Surgical Monographs, consisting of Original Treatises, and of Complete Reproductions, in English, of Books and Monographs selected from the Latest Literature of Foreign Countries, with all Illustrations, etc. Volume IV. New York: William Wood & Co. 1889.

This volume of Wood's Monographs completes the series for 1889. The first number contains an interesting essay entitled "The Influence of the Male Element upon the Female Organism," by Dr. John Brown, of Glasgow; an account of some experimental researches to determine the modifications of the internal and external temperature of the human body resulting from muscle-kneading, made by A. Symons Eccles, M.D.; and a very practical treatise on "The Diseases of the Breast," by Mr. Thomas Bryant, of London. The latter treats very thoroughly of the affections of the breast, and is illustrated with numerous wood-cuts and four chromo-lithographic plates. In the number for November we find a short monograph on "The Surgery of the Knee-joint," by Mr. C. B. Keetley, of London; "Aids to Ophthalmic Medicine and Surgery," by Mr. Jonathan Hutchinson, Jr., of London; and a translation of the most excellent treatise of Dr. C. J. Salomonsen on "Bacteriological Technology for Physicians." The following are the essays contained in the third and concluding number of this volume: "A Practical Treatise on Baldness," by Dr. George T. Jackson, of this city; "The Sphere, Rights, and Obligations of Medical Experts," by Dr. James O'Dea; "Pathology and Treatment of Ringworm," by Dr. George Thin; "Notes on Dental Surgery," by Dr. J. Smith; "The Pathology and Treatment of Scarlet Fever," by Dr. H. von Ziemssen; and "Sounding for Gall-stones, and the Extrusion of Gall-stones by Digital Manipulation," by Dr. George Harley. It will be seen, from this hasty enumeration of the contents of the fourth volume, that it is not behind those which have preceded it in variety of subjects and in the practical utility of the essays. Most of them are such as will interest the general practitioner, and it is safe to say that there is not a number in the whole year which does not contain something to interest and instruct any reader, whatever his special tastes or requirements may be. The profession of the country is indebted to the enterprising publishers of these monographs for a vast amount of first-class medical literature at a very moderate price.

Inebriety: Its Etiology, Pathology, Treatment, and Jurisprudence. By Norman Kerr, M.D., F.L.S. Second edition. London: H. K. Lewis. 1889.

Dr. Kerr's work has reached its second edition, and is familiar, no doubt, to some of our readers. In it the author preaches insistently the doctrine that inebriety is a disease allied to insanity. He devotes several chapters to a discussion of its forms, its etiology, its pathology, and its treatment. There is much of interest also upon its medico-legal aspects.

It is unfortunate, we think, that none of the English and American writers on inebriety have been pathologists, and that the subject has been approached always from its clinical side. A great deal is made out of the statement that "inebriety is a disease," and this view has been almost forced upon the profession by the prolific argumentation of its adherents.

A clearer understanding of what is meant by disease, and what by a habit, might perhaps have made the views of this school more acceptable. Every physician meets cases in which this so-called disease is cured by a single mighty effort of the will, and hence he does not feel that it is quite in the same category with epilepsy and insanity, where volition exercises but little influence.

But apart from the disease doctrine of Dr. Kerr, which may, after all, suit most readers, his book contains a great deal of interesting clinical and therapeutical matter, and embodies systematically a great deal of our modern knowledge of inebriety.

A Text-book of General Therapeutics. By W. Hale White, M.D., F.R.C.P. With Illustrations. London and New York: Macmillan & Co. 1889.

This book covers a branch not much dwelt upon in ordinary therapeutical works, but nevertheless one whose importance is continually being more and more recognized. For the author deals not with drugs, but with climate, exercise, diet, water, lavage, massage, venesection, electricity, and even hypnotism and suspension.

The subjects are clearly discussed and well presented, and we can heartily commend the work.

Les Agents Provocateurs de l'Hystérie. Par Georges Guinon. Paris: Aux Bureaux du *Progrès Médical*. A. Delahaye et Lecrosnier, Éditeurs. 1889.

The author, under the above title, discusses essentially the etiology of hysteria. He dwells especially upon its relation to injuries and shocks, and to organic diseases, and his observations here have much medico-legal importance. Many histories are given, so that the work is a contribution also to the symptomatology of the disease, reflecting the views of the Charcot school.

Essay on Medical Pneumatology: A Physiological, Clinical, and Therapeutic Investigation of the Gases. By J. N. Demarquay, Surgeon to the Municipal Hospital, Paris, etc. Translated, with Notes, Additions, and Omissions, by Samuel S. Wallian, M.D., New York. Pp. 288. Philadelphia: F. A. Davis. 1889.

The general line followed is, first, a study of the gases of the blood (oxygen, carbonic acid, and nitrogen) in their physiological condition. Then come chapters on the physiological effects, mode of preparation and administration, and therapy of oxygen, nitrogen, monoxide of nitrogen, and hydrogen. Dr. Wallian's own work in this line admirably fits him for the duties of translator and editor, and the last seventy pages of the book are a recital of his own experience. There exists great diversity of opinion among physicians as to the practical value of oxygen. The translator has a due sense of realizing that it is not a panacea, and wisely avoids claiming too much for it. The book is a reliable account of the history and present status of this class of remedial agencies.

Materia Medica, Pharmacology, and Therapeutics. By John V. Shoemaker, M.D., and John Aulde, M.D. Vol. I. 8vo, pp. 352. Philadelphia: F. A. Davis. 1889.

In the preparation of this book the authors have desired to take the position of "those who study what they see, reflect upon what has been recorded, and deduce from the knowledge thus acquired the inferences warranted by the facts." Their work shows somewhat of a reaction from the prevalent tendency to deduce the therapeutic effects of a drug from its toxicological effect upon animals. This first volume goes over the general ground of remedial agencies, modes of medicating, classification of drugs, etc., and their mode of action. The next volume (the concluding one) will contain a detailed account of each drug. The present discusses exhaustively electro-therapeutics, oxygen, hydro-therapy, massage, heat and cold, mineral waters, hypnotism, suspension, light, music, etc. The physiological effects of waltz music are "to cause the maiden's heart to beat, her eye to sparkle, her cheek to flush, and her foot to beat time."

Minor Surgery and Bandaging. By Christopher Heath, F.R.C.S. Ninth edition. 12mo, pp. 361. Philadelphia: P. Blakiston, Son & Co. 1889.

We venture to say that there are very few graduates of the last thirty years who have not, at some time or other, owned a copy of this manual. It is down to the latest date in every improvement. Any book that can last thirty years speaks for itself. It has no superior in its field.

Society Reports.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, February 7, 1890.

FRANCIS P. KINNICUTT, M.D., PRESIDENT, IN THE CHAIR.

Case of Epilepsy Dependent Apparently upon Dyspepsia.—DR. BEVERLEY ROBINSON presented a man, thirty-one years of age, with the following history: He had always been healthy; was in nowise intemperate; had been suffering four years from epileptic attacks and dyspepsia. When he eats something which disagrees with him, he has general convulsions that night. He had one November 5, 1889; came to me on November 6th, next morning; had an attack one month previous to November 5th, another six months previously, and still another fifteen months previously. The attacks were nocturnal, occurring when he was asleep. He loses consciousness, is at first rigid, then comes twitching all over, biting of the tongue. He is happy in life; not overworked. Very little anxiety makes his head whirl and hands shake. He drinks very little spirituous liquors.

He attributes his dyspepsia to eating pastry originally. The first attack took place four years ago, after some mental anxiety, and while eating a dinner of veal. He felt numbness in the right arm, went upstairs, and fell down unconscious.

He is now careful as to diet, drinks no tea nor coffee. Has a tendency to be constipated, belches wind frequently, head gets hot when suffering from dyspepsia. Heaviness in the head and dull headache come on two hours after an ordinary meal. No worms. Urine normal. Bromo-caffeine always relieves the headache.

November 14th commenced washing the stomach. Reaction of stomachal contents alkaline. Only a little fluid in the stomach after a test-meal the previous night. Everything perfectly digested. The meal consisted of bread, meat, and custard.

January 4, 1890, began administering dialyzed iron. Previous to washing the stomach, had used different antidyspeptic combinations with only slight good effect. Patient was feeling much better until January 18th, when he ate bananas at the evening meal. The next day he felt poorly. Washed out the stomach, which caused some relief. January 20th, 9 A.M., he ate buckwheat cakes. At 1.30 A.M., January 21st, he had an epileptic seizure which his wife heard from the adjoining room. Had taken large doses of bromo-caffeine January 19th, but it did him no good, increasing rather than decreasing the unpleasant stomach sensations.

Ordered continuance of stomach washings and the use of iron; fifteen grains of bromide of sodium at bed-time. Very careful diet, abundance of milk. The last three attacks have been at intervals of eleven and six weeks, more frequent than previously, although the condition of the stomach has been improving, especially since beginning the use of the stomach tube, more than two months ago.

Queries.—Is epilepsy caused by stomachal conditions? Shall we in this case use bromides continuously? How far may general anæmia cause attacks? The hæmoglobin in the blood in this patient is seventy-five per cent. of the normal amount.

When the patient first came under my care, he complained of dropping from the post-nasal space, for which I made a few applications of tincture of iodine. Latterly he has not complained of this dropping, and he states it has improved since he has irrigated his stomach. At present he has it in the morning, but it is less annoying than formerly. He is not conscious of obstructed nasal breathing. On examination I find quite free nasal passages, and the passage of a probe everywhere does not discover any abnormal sensitive areas, not even producing sneezing.

Dr. J. B. Emerson was requested to examine the patient's eyes, and he has written me as follows:

"DEAR DOCTOR: I have examined your patient's eyes twice, with the following results: Vision, right eye=$\frac{20}{20}$; left eye=$\frac{20}{20}$=normal. Can read No. 1 Jaeger at six inches, which is normal.

"There is no insufficiency of the superior or inferior recti muscles. There is an insufficiency of the internal recti muscles at 20 feet, of 6° to 8°; at 1 foot, of 14° to 16° by Graefe's test. The internal recti overcome a Pr. of 22° (varies). The external recti overcome a Pr. of 12° (varies). The ophthalmoscope shows the refraction of the eyes to be slightly hypermetropic, with perhaps a little astigmatism. There is a crescent of choroidal atrophy on the outer side of each nerve; this I think is physiological. Javal's ophthalmometer shows that there is about .50 of a dioptra of corneal astigmatism.

"My diagnosis of the case is astigmatism, with insufficiency of the internal recti muscles. My advice to the patient is to have his astigmatism corrected by using the proper glasses. The insufficiency will then disappear, I think. I do not think his eyes have anything to do with his epileptic attacks."

Would try Antipyrin.—DR. A. H. SMITH said it seemed to him to be one of those cases which was not very rare, in which the history began with some irritation generally preceding the epileptic attacks, the attacks gradually, however, taking place independently of that source of irritation, or of any other which it was possible to discover, and becoming more and more frequent. As far as treatment was concerned, he would feel inclined to try antipyrin, administered regularly, instead of bromides. He believed this and certain other allied drugs possessed a greater influence over the nervous system than did bromides, and probably could be used with safety any length of time.

Idiopathic Epilepsy.—DR. C. L. DANA agreed with Dr. Smith, that it was probably a case of idiopathic epilepsy, and did not attach much significance to the dyspepsia as a factor in the etiology or cure. He would most decidedly say such a case ought to be treated as if it were a serious case of epilepsy, and place the patient on those drugs which generally had been found most reliable in this disease. He did not believe epilepsy could be cured by washing out the stomach, nor by any drugs or dieting intended to correct indigestion. Yet these were not to be neglected.

THE PRESIDENT remarked that we very frequently saw attacks of indigestion followed by attacks of epilepsy, but he believed it was in cases in which idiopathic epilepsy existed. A great deal could be done in controlling the epilepsy by measures directed against the form of irritation which gave rise to the seizures. He had had one very severe case of epilepsy under observation for years, in which an attack could always be produced within a few hours by the administration of a food which caused irritation of the stomach.

Pet Theories.—DR. ROBINSON thought the case illustrated very well how readily one, with a pet theory regarding the etiology of the disease, could fall into error. The rhinologist, inquiring no further into the case than what related to his specialty, might have attributed the epilepsy to reflex irritation from the nose; the oculist, to reflex irritation from the eyes; others, to reflex irritation from the stomach.

The Value of Restricted Diet.—DR. DANA referred to the case of a boy, now under his observation four months, who had previously been treated for years for epilepsy of severe form, the minor attacks occurring every day. Finding the stomach much disordered, he put the patient on strict diet, stating exactly what he should eat, regulated the bowels, and gave no medicines whatever. It had now been four months since he had had any at-

tacks, either of *petit mal* or *haut mal*. He did not, however, regard the boy as cured, and had lately given him some neurotics in order to brace the nervous system against that sensitiveness which readily yielded to irritations calculated to bring on epileptic attacks.

Latent Epilepsy.—Dr. V. P. Gibney inquired of Dr. Dana what meaning he attached to the term "latent" epilepsy.

Dr. Dana replied that a patient who, like the boy just spoken of, had had epilepsy, the attacks ceasing on removal of an irritation in the stomach or elsewhere, might be said to have latent epilepsy, for there was likely to be a return of the attacks upon any indulgence, alcoholic, sexual, or dietary.

Dr. Gibney said he had seen two or three cases of epileptiform seizures recently, in the Children's Hospital, which had puzzled him somewhat. One was in a girl, fourteen or fifteen years of age, who had come into the hospital about two months ago from one of the orphan asylums of the city, with diffuse osteo-myelitis of the tibia. He chiselled down into the bone in two or three places, cleared out the abscesses, and the patient was doing very well, when one night she surprised the house-staff with a convulsive seizure which lasted ten or fifteen minutes, during which time she was in a semi-conscious state. She did not bite the tongue, nor manifest signs particularly characteristic of an epileptic attack. The cause of the seizure could not be traced to the condition of the wound, nor to any error in diet. Three or four weeks later, which was about a week ago, she had another similar attack. In the asylum where she had previously been they were positive she had never before had an attack.

Another case occurred in a boy eight years of age, who was sent to the hospital three or four months ago for an operation on the tarsi. After the operative wound had nearly or quite healed, and while the boy was in very good condition, he one evening had an alarming epileptiform seizure. It was thought to have been due to something which he had eaten, or to intestinal derangement of some kind. Next morning his temperature was 101° F., and he complained a little of his throat. Dr. Holt was called, and he diagnosticated simple tonsillitis with inflammation of two or three follicles, which disappeared after two or three days.

The third case was that of a boy about ten years of age, who had deformity of the knee which Dr. Gibney was trying to overcome by apparatus. There had been no suppuration for a long time. Day before yesterday he had an epileptiform seizure which lasted twenty minutes. During the convulsive seizure he did not bite the tongue nor pass urine. The house-staff were inclined to think it was due to intestinal irritation of some kind. Dr. Gibney had known the patient for years, and could say this was his first convulsion. In the case of the second patient, the parents never knew him to have an epileptic attack. In reply to an interrogatory by Dr. Smith, he said he did not know whether there was anything in the family history to account for the condition.

Operations for Epilepsy.—Dr. Bryant mentioned two cases in which operations had been performed for epilepsy. One of the patients was trephined, presumably at the place where he had sustained a blow, and which it was thought might be the cause of the attack. There had been no recurrence of the attacks since the operation, about fifteen years. It was but fair to say, however, that nothing was found where the bone had been removed to warrant the belief that depression had ever taken place, or that any pathological change had taken place to account for the epilepsy.

The other case came under his own observation three years ago. Both vertebral arteries were tied simultaneously at the point of their admission to the transverse processes of the sixth cervical vertebra. But it did not control the epilepsy. It simply diminished the number of the attacks for two or three days. The case was in a young person, without, as far as could be learned, any hereditary tendency.

Dr. Joseph D. Bryant read a paper on "Rupture of the Bladder: A Case with Mistake in Diagnosis" (see page 229).

What Caused Death?—Dr. George F. Shrady said that in listening to the very interesting paper of Dr. Bryant he had imagined himself in the reader's place while examining the case, and it seemed to him that really nothing more could have been done under the circumstances. All the symptoms were really negative. But it occurred to him to ask, Of what did the patient die? There was a history of a supplementary bladder, so to speak, formed by adhesions in the vesico-rectal pouch and among the adjacent coils of intestine. Was there a rupture of the supplementary bladder and collapse from general peritonitis, or was the case one of septic peritonitis?

Dr. Bryant remarked that the autopsy was, of course, very imperfect under the circumstances. Besides the conditions described in the account of the autopsy, there was presumably commencing general septic peritonitis, which must have arisen from the primary extravasation.

Was there Septic Peritonitis?—Dr. Herman M. Biggs said the entrance of urine into the peritoneal cavity would certainly be sufficient to cause fibrinous exudation and adhesion among the coils of intestine which went to form the pouch about the seat of rupture, but he recognized nothing in the history, nor in the notes of the autopsy, which went to show that there was septic peritonitis.

Dr. W. M. Polk inquired of Dr. Biggs how he would explain the presence of general peritonitis if there were not septic poisoning?

Dr. Biggs replied that he would call it simply fibrinous peritonitis, due to the presence of a non-septic fluid in the peritoneal cavity. If there was septic peritonitis, the poison, probably, had been introduced with the catheter, but there was nothing in the history to show that it was septic. He would suppose that if a fluid like urine were introduced into the peritoneal cavity, and allowed to remain sufficiently long, it would cause simple fibrinous exudation, but not sepsis.

Dr. Polk said he asked the question, not because he doubted the doctor's conclusion, but because in peritonitis due to injury or operative procedure, gynecologists were in the habit of calling it septic. He had not been able to convince himself, however, that all these cases of peritonitis were of septic origin. For instance, in cases similar to the one narrated by Dr. Bryant, in which only a few hours, perhaps twelve, before death the temperature suddenly rose, the pulse changed, and the patient died, apparently of collapse. At the autopsy one found just the slightest evidence of peritonitis throughout the abdomen; no fluid.

Dr. Biggs said such cases might be septic, and they might not. Usually, where the peritonitis came on in that way after an operation, and ended fatally in a short time, it was due to septic infection. The only way to determine positively whether sepsis was present, was to search for bacteria.

Dr. J. West Roosevelt thought the sole way to differentiate forms of peritonitis according to their etiology, was by the use of the microscope. Practically, he thought, surgical cases might well be regarded generally as of septic origin, and early death be attributed, as in analogous cases of infectious diseases, to a large dose of the specific poison.

Puncture Versus Exploratory Incision in Hepatic Disease.—Discussion on this subject arose in connection with a case which had been recited during the evening, and in which exploratory incision had been made in preference to puncture.

Dr. Beverley Robinson had given his reasons for preferring puncture to incision in this case, even though adhesions might not have formed, as follows: In most cases the gall-bladder could be avoided; if one passed through

the abdominal wall with a long hypodermic needle, he could penetrate deeply into the liver and do no particular harm. In fact, he did not believe there was any danger unless pus was withdrawn and some oozed out into the peritoneal cavity after withdrawing the needle. But in that case one had already acquired positive knowledge that pus was present, and could treat the case accordingly. Then, too, there was also risk of pus entering the abdominal cavity when the abdomen was opened and the hypodermic needle passed into the liver in different parts. Add to this the further fact that in opening the abdomen, atmospheric conditions came on the ground, and the comparative simplicity of exploration by puncture became manifest.

He had had a case in the medical wards of St. Luke's Hospital, three or four years ago, in which repeated punctures were made into the liver, pus being found prior to an operation, and no harm resulted, apparently, from the punctures. In his own person he would much prefer puncture by the hypodermic needle to opening of the abdomen, manipulation, and puncture of the liver by the surgeon.

Puncture Should be Made on the Convex Surface.—Dr. Andrew H. Smith thought that if the puncture were made on the convex surface of the liver, where the hepatic and diaphragmatic peritoneum came closely into contact, the amount of pus which could escape through the puncture with a fine needle would be very small, and would readily be shut off by exudation. If, on the contrary, the needle were introduced from below into the concave surface of the liver, he would expect danger.

Dr. Roosevelt inquired in what proportion of cases had harm followed puncture of the liver in the many instances in which it had been performed. It was known that opening the abdomen had done a good deal of mischief, and he did not see why an exploratory incision should be made when all objections to it were taken into account.

Danger of Puncturing the Gall-bladder, the President remarked, constituted an important objection to the use of the hypodermic needle. This accident had been followed almost immediately by fatal general peritonitis, in spite of the supposed antiseptic qualities of the bile. Further than that, he was not aware of injurious consequences following puncture of the liver.

Appendicitis Simulating Typhoid Fever.—Dr. Polk related the case of a patient who in November or October, 1888, began to suffer from a disease which his physicians pronounced a mild type of typhoid fever. At the end of four weeks the fever subsided. There had been some pain in the right iliac fossa. At the end of the fifth week there was a relapse, the patient having chills and elevation of the temperature, supposed to be due to some complication or sequel of the typhoid attack. Dr. Polk saw him about this time, and they again made careful examination, and found some consolidation at the base of the right lung which had previously been overlooked. The diagnosis of empyema was made. He was brought to the city, where he remained two weeks, too feeble to permit of an operation, and abscesses developed along the line of the long bones, indicating general infection. Dr. Thatcher made an autopsy in January, 1889, and found a small perforation of the vermiform appendix, and indications of an old abscess. There were abscesses in the liver, one in the lower portion of the right lung surrounded by consolidation, and abscesses in other parts of the body; but the chief interest in the case was the fact that its origin, apparently, was the same as in the case which had given rise to the discussion, namely, an abscess at the appendix which had been overlooked by the medical attendants. It was still a question whether the case began as a mild continued fever of typho-malarial origin, or whether it was due to the condition about the appendix which seemed to have been present a still longer period. Large white kidneys were also found at the autopsy, and it was not unlikely death would have followed any operation undertaken after the patient came under Dr. Polk's care.

Prefers an Exploratory Incision.—Regarding puncture of the liver by the hypodermic needle, Dr. Polk said the supposition was that the point of puncture became sealed by exudative material, and by contraction of a certain amount of erectile tissue which was recognized here as well as in ovarian and parovarian cysts. He frankly admitted, however, that for his own part he would rather make an exploratory incision.

It was voted to postpone further discussion on this subject until the next meeting.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, February 4, 1890.

George W. Jacoby, M.D., President, in the Chair.

Multiple Cerebral Softening with Widespread Endarteritis, and a Dissecting Aneurism of a Branch of the Left Middle Cerebral Artery.—Dr. Christian A. Herter described a case of the above. The following is an abstract of the history of the patient:

The patient, M. L. D——, was thirty-two years of age. Her family and personal history were negative. The patient indulged in the use of beer and light wines in moderation. No history of syphilis could be obtained, and syphilitic infection seemed improbable.

Up to the beginning of her fatal illness, the patient was in ordinarily good health. On the morning of March 2, 1888, she had an attack of left hemiplegia, without loss of consciousness. In the course of two or three weeks there was sufficient recovery of power to enable her to walk with the aid of a cane. A second attack of hemiplegia occurred seven months after the first. This time the paralysis was on the right side and was accompanied with motor aphasia. No loss of consciousness, properly speaking, occurred at the time of the attack. The patient became apathetic, but could be roused without difficulty. On November 15th, ten days after the second attack, she was admitted to the Presbyterian Hospital in a condition of stupor. Examination failed to discover evidences of thoracic or abdominal disease. The condition of the various forms of sensibility could not be determined, owing to the patient's mental state. The plantar reflex and knee-jerk were absent on the right side. The pupils reacted normally. The hemiplegia was difficult to make out, owing to the mental state. Urine and fæces were passed unconsciously, but there was no sphinteric weakness. Two weeks after admission, a slight rise in temperature was noted. During the remaining period of her life—a period of two weeks—the temperature ranged irregularly between 101° and 104° F. No physical signs of thoracic disease were detected. There was no cough. Four days before death, there appeared conjugate deviation of the eyes to the left. This condition continued without change until death. There were no ophthalmoscopic changes. Three days before death, the left arm became cataleptic. This localized catalepsy persisted until death. On December 14th, the patient died in coma. The autopsy showed the presence of double hypostatic pneumonia. The other viscera were normal. The meninges were normal. The left hemisphere was distinctly larger in every dimension than the right. Coronal sections showed the existence of several foci of softening. One of these, of considerable extent and recent date, occupied a large part of the left frontal lobe, and the motor path between the internal capsule and the cortex. A small cicatrix was found in the right hemisphere, occupying the lateral half of the caudate nucleus and the mesial part of the internal capsule.

The arteries at the base of the brain appeared normal, but a careful microscopical examination showed the existence of widespread endarteritis of the medium-sized and small arteries of the brain. Degenerative changes were not observed in any vessel.

A very remarkable condition was discovered in a large branch of the left middle cerebral artery. The walls of this vessel, in addition to being the seat of endarteritis, were separated by a hemorrhage of considerable size, constituting a dissecting aneurism. The presence of this clot between the elastic layer and the media, caused the complete occlusion of the vessel.

No accurate diagnosis of the nature of the cerebral lesions above described was made during the life of the patient, as nothing whatever was known of her history before admission to the hospital, until the time of her death, when the facts incorporated in the clinical history were brought to light.

The existence of localized catalepsy in this case is of interest in connection with the lesion observed in the right internal capsule and caudate nucleus. This focus, which is older than the larger lesion on the left side, is unquestionably related to the first hemiplegic seizure noted in the clinical history. Perhaps it is also related to the catalepsy. This view is supported by the localization and persistence of the cataleptic rigidity.

By far the greatest interest of this case lies in the peculiar form of arterial disease that has been described. The facts of the case and the microscopical appearances make it highly probable that the aneurism was operative in the production of the area of softening in the left hemisphere. It is believed that this is the first case of arterial occlusion from intra-arterial hemorrhage that has been described.

Dr. Fisher said that he had observed many cases of endarteritis and softening among the aged in the city almshouse. He described the case of a woman who was dull and stupid, had had two attacks of aphasia, together with hemiplegia, and who was syphilitic; syphilis and alcoholism being common to most of the almshouse inmates. In this patient there was undoubted occlusion of arteries and softening. He believed it would be impossible to distinguish between syphilitic and atheromatous disease of the vessels. He had noted as quite characteristic of specific cerebral endarteritis, extreme dulness and stupidity. Often the pupils were irregular and sluggish in their reaction to light. He would consider the hebetude in Dr. Herter's case as due to the general condition of the vessels rather than to the lesion in the frontal lobe.

Dr. Starr asked the reason of the asymmetry of the hemispheres presented in the drawings.

Dr. Herter said that œdema of the left side was the cause of the disproportion. In reply to Dr. Fisher, he stated that his case was not syphilitic, and the age was but thirty-two. Naturally, softening was common in people of advanced age.

Epilepsy.—Dr. Frank H. Ingram then read a paper entitled "A Contribution to the Study of Epilepsy." An analysis made of eleven thousand epileptic seizures, occurring in one hundred and ten patients, showed a predominance of diurnal attacks. The author said that faulty digestion, retained urine, and bad dreams were responsible for the nocturnal fits, and that vascular weaknesses and various so-called functional disturbances could be assigned as the exciting causes of most of the others. Sudden barometric and thermometric changes, particularly the former, were potent in producing epileptic explosions.

Reports of three autopsies were given, two of which showed pathological conditions in the brain which would account for the convulsions. In one case, in which the spasms invariably began in the left lower extremity, aneurismal vessels, subcortical, were found in the leg centre of the right hemisphere of the brain. In another case, excepting that there was also a loss of hearing, there were fibrinous and caseous deposits and pressure degeneration about the leg-centre in the right hemisphere, with caseous granules in the sheath of each auditory nerve. The third case showed degeneration in the posterior horns of the lateral ventricles, which, the writer said, was the only case in his experience which showed degeneration of the so-called epileptogenic zone.

Barometric Pressure and Epileptic Attacks. — The indiscriminate grouping of epileptics was condemned, and conservatism in the use of the bromides recommended. The writer professed a fixed disbelief in a definite pathology for epileptics, and cited several cases showing the marked difference in the character and the sequence of the convulsive phenomena.

Dr. Starr thought it interesting to hear of the apparent relation existing between changes of barometric pressure and the frequency of epileptic attacks. There was nothing which tended to produce epileptic seizures so soon as variations in arterial tone, a fact which might possibly serve to explain the matter of atmospheric influence.

As regarded the pathology of epilepsy, there seemed to to be no permanent lesion of the brain; and all such gross changes as had been described by Alexander, by Meynert, and others, were not the direct cause of the disease. It was inconsistent with our clinical knowledge of the disorder to seek for visible pathological changes.

Treatment of Epilepsy.—The treatment of epilepsy differed much in its results in dispensary and private practice, the former cases existing under such bad hygienic conditions. Contrasting the two classes, dispensary cases had six times as many seizures, and were in other ways worse than private patients.

There was much of value in the character of the aura. Dr. Ingram reported no aura in fifty per cent. of his cases. Undoubtedly the point of departure in epilepsy was cortical, and the character of the aura gave the seat of the discharge. If the aura were visual, as in many cases, the point of origin was in the visual area. If auditory, a rarer phenomenon, it began in the auditory area. Although the larger proportion of epileptic seizures was due to cortical disturbance, such discharge might take place from gray matter anywhere in the nervous system.

The Bromides.—It was unfortunate to condemn the bromides, for although often injurious, they gave better results than any other known drugs, when employed under proper regulations.

Dr. Herter agreed with Dr. Starr, that there was no relation between the pathological findings in epilepsy and the disease; but nutritive changes in an unstable cortex were probably the cause, apart from any gross pathological lesions.

Dr. Fisher thought that the bromides did not interfere much with bodily nutrition, as many patients grew fat on them. They seemed to become habituated to them.

Dr. Skinner described a case where the cutting off of the bromides resulted fatally. The patient, a young woman, had been for some time under bromides, when she was sent to an oculist to have her eyes examined. The latter found mixed astigmatism. The bromides were cut off. After three weeks she began to have attacks of *petit mal* very frequently; they became more and more frequent, until finally she sank into coma and died. One and one-third grain of morphia, in four doses, hypodermatically, made no impression upon the seizures. The fits invariably began upon the right side of the body, with deviation of the head to the left, and of the eyes to the right. He thought there had been a cortical hemorrhage.

Dr. Leszynsky said that the autopsy in cases of status epilepticus yielded no result. Patients died from heart or respiratory failure. He believed he had saved the lives of several such cases by venesection. He had used nitrate of amyl before he knew that it was harmful. Most drugs are of no service, with the exception of chloral, which in forty to fifty-grain doses per rectum had acted well. The indiscriminate use of bromides in epilepsy was injurious, but their careful administration was productive of satisfactory results.

Pilocarpin in Epilepsy.—Dr. Lyon had employed pilocarpin in a case with epileptic convulsions, and with excellent results, It produced first a profuse perspiration.

after which the patient emerged from his attack. In asylums it was very common to withdraw the bromides from cases, but he had never observed any harm to follow. He had used pilocarpin also successfully in a case of hystero-epilepsy.

Dr. Herter thought pilocarpin should always be employed with the greatest caution. He had seen it produce pulmonary œdema and death in two cases.

Falling Asleep while at Work.—The President related the case of a barber who, several years ago, began to fall asleep when at his work, and was consequently discharged. The somnolent attacks had continued. He would fall asleep while walking, or riding on the platform of cars, and had frequent falls into the street, into gutters, on the stove, etc., none of these things waking him up. There was no convulsion, nothing to call epileptic. Ten years ago he weighed 150 pounds; now he weighs 270 pounds. Curiously enough, he was a sufferer from insomnia, not being able to sleep continuously at night for more than half an hour. Were these epileptic attacks? Was there any connection between them and the corpulence!

Dr. Dana had reported a case of epileptic morbid somnolence in a young woman several years ago. She had had at first only somnolent attacks, later developing real epilepsy. He believed these somnolent seizures to be a form of *petit mal*. He had had a case similar to Dr. Jacoby's in conjunction with Dr. Hammond. He walked about while asleep, but did not hurt himself, and could be roused. The pupils were contracted as in normal sleep, and not dilated as in epilepsy. It might be allied to narcolepsy.

Dr. Ingram said that his routine treatment of the status epilepticus had been sixty grains of chloral per rectum every two hours, and this had been very successful in the majority of cases. He had also seen good results and no injury from the use of pilocarpin.

The Committee, consisting of Drs. Peterson, Dana, and Parsons, appointed at the January meeting to examine the "Gallup Lunacy Bill," submitted a report through its Chairman, of which the following is an abstract:

The "Gallup Lunacy Bill."—Mr. President: The Committee appointed at the last meeting of the Neurological Society to examine the proposed new lunacy law, known as the Gallup Bill, beg leave to report as follows:

"The measure has a large number of very excellent features, which, if they should become law, would prove of the highest advantage to the unfortunates whom they are intended to benefit. These are the sections relating to:

"1. The removal of the insane to asylums by attendants of the same sex.

"2. The admission and discharge of voluntary patients.

"3. The admission of emergency cases without papers of any kind for three days.

"4. The forbidding of the confinement of insane persons in jails in the same room with criminals, and any detention beyond ten days.

"5. The provision of home visits of indefinite duration at the discretion of the medical officers of the asylums.

"6. The boarding-out of suitable chronic lunatics in private families, at county expense, according to the systems in vogue in Scotland and Massachusetts.

"Aside from the invaluable particulars just described, there are several sections relating to commitment, to which there would seem to be serious objections.

"1. The method of commitment recommended is unnecessarily complicated. It may be carried out in country districts with a fair degree of patience and labor; but the difficulties of perfecting the process in the larger cities, and particularly in New York and Brooklyn, will be almost insurmountable. We are credibly informed, in fact, that some of our city judges who have seen the bill have expressed their unwillingness to have anything to do with a method involving so much of their valuable time, and will probably refuse to commit patients at all.

"2. The position of Examiner in Lunacy will be degraded to a reward for political labors, since the appointment of the two physicians in each case is left to the discretion of the county officials or judge, and not as now to the wishes of the family concerned.

"3. A majority of the patients will suffer harm from the visitation of two strange physicians and the superintendent of the poor, and from the visitation of an officer of the court with a notification of the legal proceedings about to be instituted.

"In contradistinction to these facts we have abundant testimony to the effect that, simple in comparison as is the existing law of commitment, no person has ever been, through intentional wrong-doing, placed in an asylum as insane in this State, the present method affording ample protection.

"But it is possible to make certain improvements in the law now in force, not only in the manner of commitment, but also in the means of regaining subsequent liberty; and the suggestions your committee would submit are as follows:

"1. There should be no material change in the present mode of commitment by two medical certificates, sworn to, and approved by a judge of a court of record, as provided in the Laws of 1874.

"2. Emergency cases should be received for three days without papers of any kind, as specified in the proposed new law.

"3. The medical certificates should be more carefully and thoroughly made out, not only in justice to the patient, but also for the benefit of the asylum physicians, who now rarely receive many facts bearing upon the medical history of their patients, or upon their mental conditions. To this end the form prescribed in the Gallup Bill should be adopted. A few additional questions should be incorporated in the medical certificate, for the purpose of determining whether the physicians have informed the patient of their intention of placing him in a hospital for the insane for treatment, in order to guard against the serious harm so often done to patients by removing them to an institution through deception. The State Commission in Lunacy seems to be invested with the power to prescribe the form in which the medical certificate should be made out, and a law regulating this would not appear to be necessary.

"4. There should be a section in the law permitting any higher justice, upon application from any patient in an asylum, to appoint at his discretion a commission of two or three physicians to quietly examine said patient as to his mental condition, and upon receiving their report favorable thereto, to discharge him from the custody of the asylum. By the Laws of 1889, chapter 283, section 22, the State Commission in Lunacy is empowered to make such regulations as to the correspondence of patients as would insure the proper carrying out of this law.

"5. A clause should be introduced into the bill providing that nothing in the lunacy laws of the State shall be construed to interfere with the reception and treatment of acute cases of insanity in chartered general hospitals, in the same manner and under the same conditions as patients suffering from other diseases are there received and treated, provided such hospitals have suitable accommodations approved by the State Commission in Lunacy.

Signed, Frederick Peterson, *Chairman.*
C. L. Dana, M.D.,
Ralph L. Parsons, M.D.
G. W. Jacoby, M.D., *Ex-officio.*

Dr. Starr expressed himself as thoroughly in sympathy with the criticisms and recommendations of the report. He moved that the report be adopted and printed, and that copies be forwarded to the Governor of the State, the State Commissioners in Lunacy, and to such others as were interested in the insanity laws.

After some further favorable discussion by Drs. Fisher, Leszynsky, and Ingram, the report was adopted as read, and the recommendations of Dr. Starr ordered.

THE NEW YORK COUNTY MEDICAL ASSOCIATION.[1]

Stated Meeting, held at the New York Academy of Medicine, February 17, 1890.

GEORGE T. HARRISON, M.D., VICE-PRESIDENT, IN THE CHAIR.

DR. GEORGE T. HARRISON, the Vice-President, reviewed the work of the Association during the past year, and referred to the late Dr. Charles S. Wood, who, as the President, had contributed so much by his enthusiastic efforts toward their success. He paid a graceful tribute to Dr. Wood's many virtues.

Radical Cure of Hernia.—DR. EDWARD VON DÖNHOFF read a paper on the "Radical Cure of Hernia," immediately after the exhibition of several cases by Dr. T. H. Manley. Dr. W. B. DeGarmo took exception to some of Dr. von Dönhoff's strictures upon the inutility of the truss, and maintained that it occupied an important place in the treatment of the difficulty. He rather scouted the idea that it produced atrophic changes—at least to any important degree—in the underlying tissues. He pointed to the fact that there were thousands who depended for their safety upon the contrivance for a long series of years, and would hearken to no other suggestion for their relief. The many failures in the radical operations, he thought, would bear him out in his statements, which by some might be regarded as too pronounced.

DR. CHARLES MCBURNEY explained at length the *rationale* of the procedure which his friends had associated with his name. He did not claim infallible results, although, after a reasonable length of time they should be regarded as very encouraging. He thought that most of the failures were due to the fact that operators satisfied themselves with considerations of the external ring, and did not seek for producing causes beyond that exit of the protrusion. The approximation of the columns did not cover the entire question—a dense cicatrix, which the years could not entirely absorb, was an object well worth the aim. He then explained at length the tendency of the peritoneal pouch toward protrusion in almost every subject, and held to the view that special individual safeguards were very rare. A number of cases showing the results of the operation were presented.

DR. T. H. MANLEY confined his remarks to those cases where strangulations left no other resource than an operation for immediate relief, and argued that much time was not left for the consideration of very nice points. Still, he was much pleased with Dr. McBurney's skill and success. So far as his own experience taught, he was not inclined to abandon Dr. McBurney's methods, and was of the opinion that his logic was sound.

DR. A. PALMER DUDLEY thought that some of the failures were due to the late operations—that the time for surgical interference was before what was a mere slit became a circle. He suggested that there was yet a future in store for this radical treatment along the line of antiseptic laparotomy.

Continuous Irrigation of Deep Cavities.—DR. N. G. BOZEMAN exhibited an apparatus, the joint device of himself and father, for the continuous irrigation of deep cavities. The contrivance, which was simple, ingenious, and capable of improvised application, was on the principle of an intermittent siphon. It excited no little interest among those present, and was regarded as especially useful in gynecological practice.

Twelve members were admitted, a memoir of Dr. David C. Cocks was read, and resolutions eulogistic of the late Drs. Lewis Hall Sayre and C. S. Wood were passed. After which the meeting adjourned.

Nicotine for Hiccough.—Dr. Higginbotham states that he has cured several cases of very obstinate singultus by means of pills containing $\frac{1}{10}$ grain of nicotine.

Correspondence.

OUR PARIS LETTER.

(From our Special Correspondent.)

IS "LA GRIPPE" AN ACUTE INFECTIOUS DISEASE?—THE EFFECTS OF SULPHATE OF COPPER ON THE HANDS WHEN USED AS AN INJECTION—THE TREATMENT OF TYPHOID FEVER—LARGE FIBROMA OF BROAD LIGAMENTS—OVARIOTOMY STATISTICS—THE PATHOGENY OF GLAUCOMA.

PARIS, February 7, 1890.

THAT grippe or influenza is an infectious and a contagious malady is gaining ground in the profession. To exemplify this idea Dr. Proust read an extract of a report, at the Academy of Medicine, by Dr. d'Hoste, surgeon of a mail steamer called Saint Germain. The Saint Germain left Saint Nazaire on December 2, 1889. It put in, on the 3d and the 6th, at Pauillac, and on the 5th at Santander. At this last port a passenger of the first class embarked, coming from Madrid, where the influenza reigned. Till then the health of those on board was good; but, on the 6th, the passenger from Santander was taken with grippe; four days later the doctor of the ship fell ill, then a servant. From December 12th to January 7th, 154 out of 436 passengers, and 47 men of the crew became, in their turn, affected with the malady. The epidemic, however, was slight, and there were no deaths. Hence the conclusion that grippe is manifestly a contagious and transmissible malady, and that not only in its grave complications, as established by Professor Bouchard, but also in its simple and benign form.

Dr. Tarnier presented, at the Academy of Medicine, a young woman, an *infirmière* of the Maternity, whose duty was to administer vaginal injections of solutions of sulphate of copper to women recently confined. This woman's hands became red and inflamed, and she requested to discontinue her work. M. Tarnier observed that this was one of the drawbacks in employing the sulphate of copper as an antiseptic in such cases, as several instances of the kind just referred to have occurred. He therefore preferably employs a solution of the bichloride of mercury. Dr. Fournier remarked that this woman had a pseudo or artificial eczema of the hands, caused by the sulphate of copper, and that she is in consequence very much exposed to contract syphilis in handling syphilitic infants, which are so common in the class of patients that are treated at the Maternity. He would therefore suggest the cessation of the employment, as antiseptics, of drugs which would cause inconveniences of this kind. Dr. Féréol observed that this woman was interesting in another point of view. For the long time that she had employed the sulphate of copper, she must have absorbed a great deal, since her hands were chapped, but, nevertheless, she did not present any phenomenon of intoxication. This case would contribute to prove that copper was not toxic. Dr. Fournier remarked that this woman was not anæsthetic, but that she was analgetic. She felt the prick of a pin, but felt no pain whatever, even when this pin completely traversed the skin. It is possible that this analgesia was a phenomenon due to intoxication by the sulphate of copper.

In a note to the Medical Society of Hospitals Dr. Sorel gives the report of 105 cases of typhoid fever that he had treated. Of these 105 cases there were 100 cures and 5 deaths. The treatment consisted in the administration of the sulphate of quinine associated with the salicylate of soda. Some of the patients had baths, but more hot than cold. Dr. Sorel does not think that, for the present, the superiority of cold baths are sufficiently established to constitute a method of treatment compulsory in the army, as it is among the Germans.

At a recent meeting of the Société de Chirurgie Dr. Terrillon communicated the case of a women, aged thirty seven, and mother of seven children. From this patient he

removed a large fibroma, which was included in the broad ligaments. At the commencement of October, 1888, her abdomen measured one metre sixty centimetres in circumference. The tumor which it contained gave rise to grave phenomena, such as intestinal obstruction, dysuria, and even temporary anuria. Laparotomy was practised on October 10th. The incision, which was very long, extending beyond the umbilicus, immediately exposed to view a large tumor, very vascular, divided into several lobules, and occupying a large portion of the pelvis, and included in the two broad ligaments, forming several adhesions with the ureters, the bladder, and the abdominal walls. It was found to be a fibroma weighing nineteen kilogrammes, and developed on the posterior and lateral surfaces of the uterus. The cure was effected without incident. The patient left the hospital on the twenty-eighth day. Since that time she has always been in good health.

At a subsequent meeting of the Société de Chirurgie Dr. Terrillon gave an account of his sixth series of thirty-five ovariotomy operations. He enumerated the different cases which appeared to him worthy of remark. Of these thirty-five operations performed from February 12, 1889, to October 20th of the same year, there were only two deaths, one from peritonitis, on the fifth day, without any rising of the temperature, the other from septicæmia, on the thirty-second day. In this latter case there were several complex cysts which were very adherent.

Dr. Chauvel read a report on three cases observed by Dr. Barthélemy, of Tunis, on abscess of the liver treated by direct incision. Dr. Barthélemy incised the soft parts, layer by layer, and opened the abscess, without suturing the hepatic tissue to the peritoneum. Complete cure was the result.

Dr. Malassez submitted a paper, at a recent meeting of the Société de Biologie, on the pathogeny of glaucoma, in the name of Dr. Nicati, of Marseilles. This author had established the fact that there existed, in cases of glaucoma, capillary varices due to a spasmodic state of the iris and of the choroid, whence the production of an intra-ocular œdema and the distention of the globe of the eye. But for this œdema to become permanent it is necessary that the normal tissues by which the aqueous humor escapes should be obstructed. This obstruction is almost fatal, owing to the iro-chorodian reflex spasm. He therefore deduces a double etiological factor: 1. Capillary varices. 2. An obstruction of the canals of the aqueous humor.

THE NEW OPERATION FOR EPILEPSY.

To the Editor of the Medical Record.

Sir: Under the heading a "New Operation for Epilepsy" I notice a slight error which I think is worth while correcting.

Dr. Alexander, to whom your paragraph refers, lives in Liverpool, and is the same surgeon who is the author of the operation that goes by his name for shortening the round ligament. The operation of removal of the cervical ganglia was substituted, some years ago, by him for that of ligation of the vertebrals, but with the same object in view—of curing epilepsy through the control of the cerebral circulation. In the later operation this he attempts to accomplish by depriving the blood-supply of its vasa-motor influence—to place the brain thus far beyond the control of those causes that lead up to an epileptic seizure. He commenced this new departure in the surgery of epilepsy by the difficult feat of removing both superior and inferior cervical ganglia; but latterly, when I last saw his work (1887), he confined himself to the removal of the superior ganglia. The results of the latter, as shown in the recent cases in his wards, seemed to me to justify this ingenious procedure. Another operation that I saw him do, which also had at any rate the charm of novelty about it, but the good and bad results of which I have not heard since, was in cases of otherwise irremediable incontinence in women, due to paralysis of the vesical sphincter, to dissect up the urethra and button-hole the recto-vaginal septum, so that with the urethra secured in this position it could drain the bladder into the ampula of the rectum, to be discharged at intervals, instead of the continuous dribbling attending the former condition. Yours faithfully,

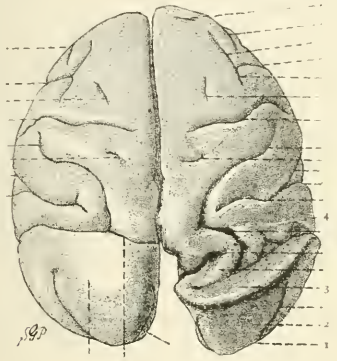
James Kerr, M.D., M.Ch.

Washington, D. C.

DOES THE POMA ("OCCIPITAL OPERCULUM") OCCUR IN THE HUMAN BRAIN?

To the Editor of the Medical Record.

Sir: Permit me to ask the anatomists among your readers whether they have observed specimens or figures of the human brain in which a portion of the dorsal surface of the occipital lobe overlaps the region just cephalad of



Dorso-caudal Aspect of the Brain of a Monkey (Macacus), the Right Poma lifted. 1, Caudal end of right occipital lobe; 2, surface caudal of poma; 3, poma; 4 (light line), line of detachment of the pomatic margin; 5, poma, 6, pomatic fissure.

it, the line of overlapping being *approximately transverse*, as represented in the last volume of the "Reference Handbook," p. 162, Fig. 4788. Analogous overlappings, constituting supergyres, may occur at almost any point upon the cerebrum, but I have not as yet found what seems to me *identical* with the poma of apes and monkeys.

Burt G. Wilder.

Ithaca, N. Y., January 11, 1890.

CONCERNING THE TREATMENT OF NEUROTIC TUMORS OF THE BREAST.

To the Editor of the Medical Record.

Sir: How great are the resources of modern therapeutics! How gigantic the strides toward the desired goal—scientific exactitude in medicine! Ovariotomists *vs.* "Apostolists," urethrotomists *vs.* electrolosists, wage warfare in which non-combatants are the killed and wounded.

When the French savant introduced the testicular secretion as a rejuvenator we supposed the ultimatum in the line of sexual vagaries attained. Not so. Readers of the Medical Record for February 15th will be rejoiced to find a new vista opened up, viz., female orgasm. The suggestive "respiration" and "facial and bodily movements," associated with an erectile uterus furnish a picture not difficult of comprehension.

The method appears to be applicable to young, unmarried females, and may perhaps be extended with beneficial results to erotic widows. It holds a similar relation to the sexual appetite as does the artificial feeding of infants to their digestive demands, and seems to be an imperfect substitute for the natural means—in the one case mother's milk, in the other, marriage.

Is this a legitimate therapeutic expedient? I should answer emphatically in the negative. If countenanced at

the outset, its applicability will become extended, just as has been the experience with every new therapeutic resource.

If orgasm occurs during necessary gynecological manipulations, it should be regarded as unfortunate. As to inducing it as a legitimate plan of treatment—never! The knife is a thousand times to be preferred.

F. Percy Jenks, M.D.

543 Tenth Street, Brooklyn, N. Y.

THE EXAMINATION REQUIRED FOR ACTING ASSISTANT SURGEONS, UNITED STATES ARMY.

To the Editor of the Medical Record.

Sir: In reply to Dr. S. S. Turner's item in the Medical Record of the 15th inst., kindly permit me to make the following explanation:

Some time in October I sent you some MS. concerning the Acting Assistant Surgeon, United States Army. In the Medical Record of November 2, 1889, you published an editorial, "The Hard Lot of an Acting Assistant Surgeon," for which we are all of us, I believe, deeply indebted for your courtesy and kindness. Just before referring to the requirements for admission, you stated, "We are indebted to Dr. W. Thornton Parker, of Newport, for *much* information on this subject." The inference with many seems to have been that Dr. Parker, either ignorantly or wilfully, supplied the information concerning examinations. No one seems to have known that another medical gentleman supplied that portion of your editorial.

When I read about the examinations I supposed it was true, as did many others, and I read it with great satisfaction. The officers on duty at the Surgeon-General's Office, and other regular army officers, seemed to think that it was published with intention to deceive. Some years ago Surgeon-General Murray prepared a circular and had it printed for distribution to those who sought for the position of Acting Assistant Surgeon—and that circular is almost identical with that portion of your editorial relating to Acting Assistant Surgeons. Hence when I saw the requirements for examination I very naturally supposed that someone familiar with the requirements of the service had given you the information, and so accepted it as a fact, and copied your entire editorial into our circular just about ready for publication. The knowledge of the existence of this circular only came to the present officers of the Surgeon-General's Office within the past few days, when by good chance a clerk found the circular whose very existence even was denied by those at present in authority.

I make the statement to show to Acting Assistant Surgeons and the medical profession in general that, in seeking for justice, we wish the aid of the strictest truth only, and need not and will not attempt stratagem of any kind in our unequal and almost hopeless battle. It is remarkable, however, that such a wide difference should exist between the position of an Acting Assistant Surgeon, who has less right and worse treatment than any military medical officer in the world, and the regular United States Army medical officer, who has more privileges and better pay than any other in any army. And yet the opposition for the relief of the Acting Assistant Surgeon and a tardy recognition of the most ordinary justice, comes from the comfortable and well-paid regular officers more than from any other source. Every senator and representative, and every general officer and other regular officers of high rank most cordially approved of the measure of justice hoped for. Surely the professional records of those who have been Acting Assistant Surgeons—containing the names of some of the most illustrious surgeons and physicians in the history of American Medical Life—will compare favorably with the records of Army Medical Surgeons, who have never served in the menial capacity of a "contract doctor." The position taken by our Association is generally admitted to be most reasonable and honorable, and the Army Medical Department can ill afford to offer any serious barrier to an effort aiming at the attainment of the most ordinary justice. The honor and welfare of the Army will be bettered, not injured, by giving the rights of American citizens in general to the corps of Acting Assistant Surgeons of the United States Army, than whom no worthier men are to be found in the United States Army to-day.

Thanking you sincerely for your friendly interest and kindness to our association in its discouraging but honorable work, I am, dear doctor,

Very truly yours,

W. Thornton Parker, M.D.,

Recorder Asso. Act. Asst. Surgeons, U. S. Army.

9 Kay Street, Newport, R. I., February 18, 1890.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 16 to February 22, 1890.

Smith, Andrew K., Colonel and Surgeon. Retired, February 9, 1890. Act of June 30, 1882.

Raymond, Henry I., Lieutenant and Assistant Surgeon. To be assistant surgeon with the rank of Captain, after five years service, in accordance with the act of June 23, 1874.

Smith, J. R., Lieutenant-Colonel and Surgeon. Leave of absence granted for twenty days, to take effect about February 10th. S. O. No. 15, par. 1, Headquarters Department of Arizona, February 8, 1890.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 21, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	13	6
Scarlet fever	81	12
Cerebro-spinal meningitis	4	3
Measles	84	4
Diphtheria	87	20
Small-pox	0	0
Varicella	4	0
Cholera	0	0

The Fate of Cadaveric Microbes.—It is a comfort to learn, on the authority of M. Esmarch, that most pathogenic microbes succumb sooner or later after their victims have died. The experiments were carried out with nine different micro-organisms, and the bodies of the animals on which they had wreaked their wicked will were either buried or kept under water, or exposed to the air. The bacillus of septicæmia survived ninety days, while that of anthrax disappeared within a week. The bacillus of fowl cholera was seldom found after three weeks, but the tubercular microbe did not lose its virulence until 204 and 252 days had elapsed. All trace of the other organisms was lost in from three days to a week, including those of typhoid fever, Asiatic cholera, and tetanus. As a general rule, the more active the decomposition, the sooner did they perish, and this is another argument in favor of "earth-to-earth" burial pending the universal adoption of cremation.—*Medical Press.*

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Original Articles.

THE TREATMENT OF PES EQUINO-VARUS BY CONTINUOUS LEVERAGE.[1]

BY HENRY LING TAYLOR, M.D.,

NEW YORK.

IN congenital equino-varus we probably have the result of arrested development of the foot, whether due, as Dr. H. W. Berg [2] believes, to failure of the thigh to rotate in, or to other causes. In this well-known deformity the heel is drawn upward and inward, and the foot is bent inward upon itself, and rotated toward the internal malleolus. These elements are present in varying degree in the different cases. Anatomical and clinical observation have shown that all the tissues, and not the muscles alone, are shortened and compressed on the concave side, lengthened and expanded on the convex side. The bony and ligamentous structures especially are shortened, narrowed, wedged, or displaced as compared to the normal foot, because growth has taken place in an abnormal position. In some specimens which have been examined it is noted that deformity persisted after all the tendons had been cut.[3]

It is thus apparent that the problem presented is to remould the foot, by artificially supplying the forces which are deficient. When contracted and compressed regions are relieved of pressure by the stretching process, their growth will be stimulated toward the natural relations of the parts.

Looking at such a deformed foot from behind, we see that the foot and leg taken together present an irregular curve with the convexity outward. If we are to attempt to reduce this curve it is mechanically advantageous to place our splint, which may be straight from below the knee to the toes, on the inner side of the leg and foot and draw them to it by strapping. This is better than putting the splint on the outer side, because in the former case we have good contact at each end to steady our splint while we are drawing the ankle in, while in the other by any method of strapping the distance between the points of firm contact is much shorter, and the apparatus consequently less fixed.

Dr. C. Fayette Taylor, when he first began to treat club-foot in 1858 or 1859, saw the mechanical advantage of placing the splint on the inner side of the foot and leg, and has used that method ever since. His early apparatus consisted of a leg-piece and foot-piece pivoted at the ankle, and so arranged that the foot piece could be set at any angle; a sole-plate was soon added. In the beginning, if there was much equinus, the foot-piece was set with the toe-end dropping so as to make an almost straight splint with the leg-piece; the splint was gradually bent at the shank to rotate the foot out; the tendo Achillis was stretched, and flexion of the ankle was progressively carried on by flexing the foot-piece of the splint and retaining it by a screw. After the foot was inverted and flexed its position was kept by wearing the appliance inside the shoe as a retaining apparatus. The brace was not attached to the shoe, for any attempt to utilize the shoe to hold the foot is disappointing, as it has no precise grasp, and the foot slips and turns inside. In 1867 Dr. Taylor visited many European clinics, among them Mr. Smith's, at the Hospital for Sick Children, Great Ormond Street, London. He found him treating club-foot by bandaging a straight piece of zinc to the inside of the foot and leg, *having first brought the foot into complete extenston*, so that it formed a straight line with the leg. As the foot yielded outward he bent the zinc with his hands to force it still further over, and kept this up until he got an equino-valgus, the lateral deformity being over-corrected, he then cut the tendo Achillis and flexed the foot.[1] Mr. Smith was not an orthopædist, but my father speaks with admiration of the precision of his mechanical sense and the excellence of his work, and acknowledges his indebtedness to him for the idea of first overcoming the varus before attacking the equinus, which he has adopted and practised ever since. Mr. Smith insisted on the advantage of preserving the tendo Achillis as a counterforce to assist in stretching the plantar ligaments and the structures on the inner side of the foot. The tendon steadies the heel while the forward part of the foot is pushed over, and the plantar ligaments are stretched from the inner side fibre by fibre.

Up to this time Dr. Taylor had employed tenotomy

Fig. 1.

Fig. 2.

freely as a step in mechanical treatment, but after adopting the method of first reducing the varus separately, he found that the resistance of the heel cord was so much lessened by the process that it yielded to the mechanical means employed much more readily than under the old plan of reducing both deformities at once, and for the same reason as in the case of the plantar fascia and ligaments. In equino-varus the tendo Achillis is inserted toward the inner side of tuberosity of the os calcis, and the inner border of the tendon is shorter than the outer; by forcing the foot out and the os calcis over, it is stretched fibre by fibre, as when we tear a bandage from the tense edge, and when the valgus position is established, the resistance is diminished. The process is analogous to that employed in the treatment of combined adduction and flexion in hip disease. The adduction is first overcome separately and then flexion is found to be lessened.

The splint, always acting from the inner side and never attached to the shoe, continued to be used and modified to meet the requirements of particular cases, and has been substantially as I show it for fifteen years. It consists, in its commonest form (Figs. 1, 2, and 4), in a steel shank

[1] Read by title at the meeting of the American Orthopædic Association, Boston, September, 1889, and in full at the Orthopædic Section of the New York Academy of Medicine, November 15, 1889.

[2] Archives of Medicine, New York, December, 1882.

[3] Dr. C. L. Scudder: Boston Medical and Surgical Journal, October 27, 1887, Cases II. and III.

[1] Dr. W. J. Little, in his work on club-foot, published in 1839, had pointed out the advantage of first reducing the varus, as Dr. Shaffer mentioned in the discussion. Dr. Little seems also to have used a form of leverage from the inner side in certain cases.

with guarded leg- and ankle-bands pivoted to a foot-piece of thin steel. The foot-piece has a sole-plate, and a side-plate fitted to the inside of the foot; there is a screw stop at the ankle-joint to flex the ankle, and there are straps across the instep which are guarded by a small steel bar. The shank is not usually pivoted directly to the foot-plate but to a steel H-piece which makes an offset from the ankle. The shank of this instrument is easily bent by the hand or by wrenches according to the requirements of the case.

About 1874 he began to apply a three-tailed adhesive plaster to the leg (Fig. 3), a piece of webbing attached to

Fig. 3.

Fig. 4.

the plaster was buckled to the heel of the apparatus (Fig. 4). This kept the heel from leaving the sole-plate when force was applied, and greatly increased precision. As the mechanical means became perfected, tenotomy was found less and less useful, even in cases of long standing, or in those that had relapsed after tenotomy, from imperfect mechanical treatment. It was usually found advantageous to preserve the heel tendon as an aid in unfolding the contracted tissues on the bottom and inner side of the foot, and it and the other contracted muscles readily yielded to stretching when force was properly applied, and in the proper order. There is no objection to tenotomy when it is done with a clear idea of its purpose and limitations, but it cannot be made to usurp the place of systematic mechanical treatment. Much disappointment has been caused by failure to realize that it is only an incident in the treatment of club-foot. After successful tenotomy there is still ligamentous and bony resistance to replacement which, even if for the moment overcome by force, will in time drag the foot back into a deformed position unless mechanical means are used to prevent it, and to hold the foot in position until the hard and soft tissues are remolded and in equilibrium on the two sides. In other words, whether tenotomy is used or not, mechanical treatment is indispensable. A prominent German surgeon, himself a believer in preliminary tenotomy, said to me a couple of years ago: "We in Germany have known for twenty years that tenotomy does not cure club foot." It is the means employed after the operation that mold the foot into position and retain it, and whether or not a permanent cure is effected will depend on the efficiency of the after-treatment, rather than upon the thoroughness of the tenotomy.

After applying the three-tailed plaster to the inner side of the leg in the manner shown, the foot-piece of the apparatus, the shank having been properly shaped, is securely strapped to the foot, and the plaster webbing buckled to the heel of the splint (Fig. 1); using the shank of the instrument now as a lever, the foot is thrown out and the leg-plate of the apparatus is strapped in place (Fig. 2). All straps are so placed and guarded, that there is no circular constriction of the limb, even after continuous use. The apparatus is, of course, properly padded, and is removed at least twice a day at first, to bathe the foot and make necessary modifications. The shank of the splint is gradually bent, forcing the foot over toward the valgus position. As the forward part of the foot swings outward, the original curve of the leg and foot becomes divided into two curves by the displaced heel; the upper formed by the heel with the tibia, the lower by the heel with the metatarsus. These are in turn directly attacked by our apparatus, thus pushing the foot out and over in the same manner as in the original curve, the inner side of the os calcis being added to the ball of the great toe and inner aspect of the upper end of the tibia as a fixed point of mechanical action, the convexity of the upper curve being drawn to the splint by a strap just above the ankle, that of the lower one by a strap over the cuboid and mediotarsal region.

With this leverage and padding over the inside of the heel, if necessary to increase its force, the os calcis and heel swing over into place. The position of the os calcis is the key to the situation, and it is not able to resist this direct attack. In fact, it is necessary to be somewhat cautious not to force it too far over, and leave the patient with a permanent valgus.

When the os calcis has been brought into proper position, and the deformity has been changed to an equino-valgus, the ankle is flexed by turning the set screw at the ankle-joint, the heel being prevented from rising by the plaster. During the few weeks that all this is going on it is important that the patient should not put his weight on his foot, as this throws much unnecessary strain on the plaster. When he can place the sole flat on the floor, walking in the splint will assist rather than hinder.

The apparatus must be worn day and night throughout the treatment, so that the foot may never return to the deformed position, and the contracted tissues may always be on the stretch. This moderate continuous stretching is irresistible, and is easily borne by the patient. During the prolonged after-treatment the patient is seen only occasionally, and goes about quite independently in his brace, which is completely concealed by his shoe and stocking. When the tissues of the foot are remolded and stable in their corrected position, all treatment may be discontinued, though it is sometimes better to have the splint worn at night for a time.

The above comprise the essential principles in ordinary cases, but details vary, so that each case from beginning to end is a separate study, and our means must be modified and adapted to suit each individual. We use many forms of foot-brace to suit the peculiarities of the case in hand, but always for varus retain the principle of stretching or moulding by continuous leverage from the inner side of the leg and foot.

Sometimes it is an advantage to run the brace up above the knee in order to get a better purchase on the foot. Once in a while there will be a residual inversion of the thigh after the foot deformity has been corrected. This requires a long apparatus with free knee-joint and hip-band to evert the thigh. Each mechanical indication must be carefully met as the case progresses.

The acquired varus of infantile paralysis is treated on the same principle, due regard being had in the construction of our apparatus to the condition of the opposing muscles, and of the rest of the limb. Tenotomy is seldom required. In the deformity due to spastic and cerebral palsies tenotomy is more often useful along with mechanical treatment.

The following outlines will give an idea of the results that can be attained by the employment of continuous leverage alone, even after failure with the ordinary methods.

Case I.—A girl, aged five and a half, came to me from Montreal in March, 1883. She was born with an equino-varus of the right foot, and the heel-cord and one other tendon had been cut by a surgeon at six months, and the tenotomy of the heel-cord had been repeated at ten months. The foot had been put up in plaster and she had had manipulation. At two and a half years she could place the sole on the floor and had begun to walk; from that time till seen she had worn a club-foot shoe. For a year and a half the foot had been rolling over and

growing worse; the father stated that it was then (1883) worse than it had ever been.

Examination showed that she walked on a large corn over the cuboid bone turning the foot in (Fig. 5). There was considerable rigidity and the foot could not be brought into position by manipulation.

Continuous leverage was applied and the patient was able to walk on the sole in two weeks, wearing the apparatus.

The foot gained three-fourths of an inch in length and the patient walked about with the shoe over the brace, stepping squarely on the sole of the foot in a month. She continued under treatment two years, and was shown cured (Fig. 6) at the New York Orthopædic Society, April 30, 1885. Since then she has been walking about freely without support, but has worn the brace at night to

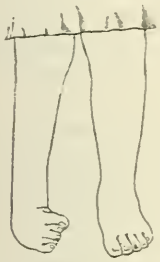

Fig. 5.—March, 1883.

Fig. 6.—November, 1884.

prevent relapse. She presents the unusual feature of three-fourths of an inch shortening from retardation of growth in the previously affected leg.

Case II.—Girl, aged five, Montreal. Brought September 21, 1885. Congenital talipes equino-varus, severe, of left foot. Heel-cord cut at three months; guttapercha splint till ten months; tenotomy of tendo Achillis repeated then and foot put up in plaster. Scarpa's shoe nine months thereafter. Patient learned to walk at nineteen months in ordinary shoe, with foot in deformed position. From two years to four and a half, brace with hip-band. Father states that she has not improved at all since ten months of age.

Examination showed patient walked on corn over cu-

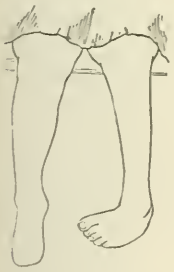

Fig. 7.—September, 1885.

Fig. 8.—October, 1886.

boid bone, the foot pointing in (Fig. 7). The distal phalanges on right foot are missing and the remaining ones webbed.

Foot came around readily under continuous leverage; patient was walking readily flat upon sole in a few months and was discharged from treatment with deformity cured (Fig. 8) in two and a half years. She walks flat on foot, turns toe out, and ankle can be flexed beyond right angle.

Case III.—Boy, aged four. Connecticut. Came in February, 1877. Severe case of double congenital equino-varus. Seven tenotomies at four operations, between third and sixth month; case reported cured, with photographs (Figs. 9 and 10). An earnest attempt was made to hold the feet by mechanical means, but in spite of many kinds of appliances and repeated tenotomies the feet relapsed. There were altogether eleven etherizations and seventeen

Fig. 9.—At two months.

Fig. 10.—At fourteen months.

tenotomies before the case was brought to Dr. C. Fayette Taylor, at the age of four (Fig. 11). He then presented a severe and typical varus with great rigidity; the feet could not be straightened by manual force. Treatment by continuous leverage was used and the deformity was corrected. Fig. 12 shows their condition in June, 1878. He wore retention apparatus several years, walking about freely, flat on his soles, and the deformity was completely overcome.

He was shown, cured, at the New York Orthopædic Society, April 30, 1885, walking perfectly flat on the soles of his feet and turning toes out. There was limited motion at the ankle. He had not worn braces for three years.

Since then, as flexion seemed somewhat diminished, I advised him to wear braces at night to keep the toes from dropping. He has done so, and his feet were, when last seen, some two years ago, nearly perfect in shape and function, except for the limited ankle motion.

I advocate the method of progressive remoulding of the foot by continuous leverage to correct the faulty moulding of nature on account of its certainty, the directness and precision with which it meets all indications, its freedom

Fig. 11.—At four years.

Fig. 12.—At five years.

from discomfort to and restriction of the patient, the perfection and permanency of its ultimate results.

The treatment of pes equino-varus is not a question of braces or of tenotomy, but of exact apprehension of the indications presented by each case throughout its progress, based upon a critical analysis of the elements involved. As Delore suggestively remarks: "You must convince yourself it is the surgeon, and not the apparatus, that effects the correction."[1]

I emphasize as important practical points:

1. The preservation of the heel-cord as an aid in unfolding the foot.

2. Exact prehension of the foot by means of an apparatus not attached to the shoe, and by plaster applied to the leg.

[1] Du Torticolis, etc., Gaz. Hebdom., March, 1878, p. 168.

3. The application of leverage to the inner side of the foot and leg.

4. The reduction, first of the varus deformity, afterterward of the equinus.

5. Thorough after-treatment.

201 West Fifty-fourth Street.

THE ANIMAL SUTURE; ITS PLACE IN SURGERY.[1]

By HENRY O. MARCY, A.M., M.D., LL.D.,

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Investigations upon the origin of means adapted to a given end clearly teach that active minds have already subjected the chief factors to careful analytical study, although certain phases of the problem are ever presenting themselves under new aspects. Dominated by such thought, Solomon taught that "there was no new thing under the sun," and it is quite probable that the animal ligature was known and used by the Egyptian surgeons at a period antedating this wise Jewish philosopher.

The connective tissue of animals was early utilized for a great variety of purposes when it was necessary to secure great strength and high tension. The Homeric poems afford familiar illustrations. In the Odyssey, the strings of the old Greek harp are described as made from the twisted intestine of the sheep. The ancient Egyptian harp is said to have been strung in a similar manner. The celebrated Arabic writer, Rhazes, who practised in Bagdad A.D. 900, describes the stitching of wounds of the abdomen with the strings of the harp, and Albucasis also mentions the stitching together of wounds of the bowel with a fine thread from the twisted intestine of an animal.

The careful student of the early history of surgery finds abundant evidence that the ligature was used as a hæmostatic agent at a very early date. Celsus, at the end of the first century, describes the ligature as of ancient origin, and says that it was used by the Alexandrian school of medicine, with the teachings of which he seems to have been familiar. He advised placing two ligatures upon the vessel and dividing it between the points of tying. Galen recommended its use, and Vesalius, in the sixteenth century, mentions the ligature as a relic of the past, greatly underestimated in value because of the lack of anatomical knowledge. Its first application in amputations, on account of gunshot wounds, was doubtless by Ambrose Paré. At this time wounds were cauterized with boiling oil, in the belief that gunpowder in some way poisoned the wound. Special studies, however, for demonstrating the value of the material used for ligatures do not appear to have been made in the early history of surgery. Indeed, there is little doubt that, whatever the material used, it was always considered as a foreign body to be ultimately eliminated from the wound, and the material, selected for its strength without special reference to the irritation which might be induced thereby, naturally commended itself in the form of thread, silk, or hemp, which was in ordinary domestic use.

To our distinguished countryman, Professor Physick, of the University of Pennsylvania, is undoubtedly due the honor of having first introduced what is first known as the *animal ligature* into surgical practice. His ligatures were made of chamois leather, and he and the late Dr. Dorsey usually rolled their ligatures on a marble slab to make them hard and round. The advantages claimed for the ligatures by Dr. Physick were that, being made of animal matter, they would serve long enough to obliterate the artery and be speedily removed by the absorbents, thus avoiding the difficulty arising from a foreign body, however minute. These ligatures were used in this country to a great extent, and Sir Astley Cooper demonstrated their superiority in his own operations.

Dr. Hartshorn used strips of parchment for his ligatures. My friend, Dr. H. G. Jamieson, Professor of Surgery in Washington Medical College, Baltimore, has for a series of years been employing the animal ligature in an extensive surgical practice. He has used it in many amputations of the limbs and of the mammæ; he has tied the carotid, the iliac, the femoral, the radial, the posterior tibial, the spermatic, and other arteries, with the buckskin ligature, and in no instance had secondary hemorrhage; and he states that he has never seen anything of his ligatures, and, of course, his wounds have generally healed by first intention. Dr. Jamieson gives to Dr. Physick the honor of having first introduced the animal ligature, but he contends that the practice of rolling, or drawing to harden the leather, is highly reprehensible. He advises to tie the artery with a buckskin ligature, very soft and a little broader than the thickness of the skin, taking care not to tie it too tightly. He states, as the result of his observations and experiments upon sheep, dogs, and other animals, that a capsule will surround the ligature, if the capillary vessels be not much disturbed, or the vessel will be surrounded by an abundance of lymph, and the ligature dissolved.

"The method of Ætius and Celsus, revived by Abernethy, of applying two ligatures and dividing the artery between them, Dr. Jamieson condemns as unnecessary, since by a single flat buckskin ligature the artery may be obliterated without destroying its continuity. Hence he opposes all indissoluble ligatures, of whatever material; he declares it not only to be unnecessary, but highly hazardous to cut the inner coats of the vessel, as recommended by Jones, etc.; and agrees with Scarpa as regards flat ligatures; but, by the use of the buckskin, has no need, like him, to remove his ligatures on the fourth day. For a very able and interesting account of his views, which are of the highest practical importance, I would refer to the thirty-seventh number of the *Medical Recorder*, published at Philadelphia, for January, 1827."[1]

The limit of this paper necessitates only brief extracts, although the entire paper is worthy of careful study.

"We believe that the animal ligature will secure the patient from all these dangers except one, to wit, the awkwardness of the surgeon; and even in this respect the animal ligature is preferable, not requiring that precision of management essential to the cutting ligature. If the ligature is cut from the leather with care, it will always admit of being tied sufficiently tight, but can never be made to cut the coats, provided it is made of soft buckskin, and not hardened by drawing it. It is less likely to slip when somewhat insecurely applied, because, being elastic and soft it is spread over a small space of the vessel, and almost immediately adheres by its glutinous properties. It lies more securely, while the cutting ligature, resting on a mere line, and having neither adhesive properties nor the advantage of a small vacuum between the vessel and the ligature, as is the case with the flattish, adhesive ligature, is more likely to slip off. Besides, as we cut off the ends close, there is no risk of pulling them away by an 'accidental jerk of the hand.' In support of these assertions, we have to offer the experience of several years' practice, during which we have used no other than the buckskin ligature, and no such thing as a secondary hemorrhage has ever occurred in our practice, extending alike to cases of aneurism, tumors, and amputations.

"We are, moreover, decidedly of the opinion that in no case whatever have we had reason to suppose that the healing of a wound, accidental or surgical, was delayed by our ligatures; we never see anything of them after their application. . . . Mr. Cooper tied the femoral artery in a female, aged eighty, with a ligature of catgut steeped in water, which was cut close, and the wound was healed on the fourth day, and must, therefore, have healed by first intention.

"In many cases, we believe, the catgut would answer as well as the buckskin, but we are confident that a flat-

[1] Read before the American Association of Obstetricians and Gynecologists, September, 1889.

[1] Cooper's Medical Dictionary, sixth American edition. Edited by D. M. Reese, M.D. Vol. ii., page 130.

tish ligature holds best and is most convenient. It may be proper to mention that this case occurred in 1817, three years after Dr. Physick's use of the leather ligature. . . . If we are right in the opinion which we have just expressed, Dr. Physick is entitled to the credit of bringing into use the best ligature as to the material, but here his claim is at an end. . . . Dr. Physick and Sir Astley Cooper have shown the advantage of using a substance which will serve as a ligature till the artery is obliterated, and be speedily afterward in the power of the absorbents, so that they will remove it. . . . We will now proceed to point out our own views, and endeavor to support them by experiment.

"First. We believe that with an artery sufficiently healthy to admit of its obliteration by the adhesion of its sides, it is best done by a ligature which will neither cut its coats nor strangulate, except in parts, the true *vasa vasorum*, so that the continuity of the vessel shall not be destroyed, although we obliterate its calibre.

"Second. We believe that if an animal ligature of the proper kind be properly applied the vessel will be obliterated, the wound may be healed by first intention, and the ligature will not cause suppurating inflammation; but in due time, being dissoluble, the whole will be removed by the absorbents. There will be no break of continuity in the artery, the *materia arteriarum* will be removed, and the vessel which, during the state of inflammation and the effusion of lymph, was converted into a cord, will pretty soon afterward be resolved to a flat string of white cellular structure.

"*Experiment* 1.—Twenty-two days after tying the carotid artery of a sheep with buckskin ligature the wound was found entirely healed, the artery obliterated, upon one side of which was a little yellowish matter which proved to be a portion of the ligature.

"*Experiment* 2.—Twenty-five days after tying the left carotid of a dog there was seen on either side of the vessel two little yellowish knobs, which proved to be the two ends of the ligature in the state of yellow pulp. The knobs were completely enveloped in a strong membranous capsule, the same capsule enclosing both knobs, and its fibres plainly seen crossing over the artery. . . . On the lower side where the coats were not cut, in splitting open the vessel to examine its interior, there was an actual adhesion of the leather to the inner coat. The string was softened into a pulpy consistence, and near the inside of the vessel was evidently covered with organized lymph, and extended along its edge some distance. When the string was gently pulled, one plainly saw a delicate membrane, passing off from the artery and ending on the string in fringed extremities. This attachment of the vessel by a new formation existed on both sides of the artery. The capsule covering the knobs, or ends of the string, was fully equal in strength to the outer coat of the artery, and therefore there was no tendency to hemorrhage."

It will be seen that in all the essentials the experiments of Dr. Jamieson, undertaken for a similar purpose, were not unlike those of Sir Joseph Lister, repeated half a century later; and the former at a period when so little was expected of the American people in the way of literary productions, to say nothing of scientific research, that one of England's famous critics asked, "Who reads an American book?"

Dr. Ephraim McDowell, in 1809, tied the pedicle of his first case of ovariotomy with a ligature of buckskin.[1]

In the history of ovariotomy in the United States, by the late Dr. Peaslee, it is stated that Dr. Nathan Smith, Professor of Surgery in Yale College, in 1821, tied the arteries with leather ligatures (narrow strips cut from a kid-glove), which were returned into the peritoneal cavity and the incision was closed, followed by recovery.

[1] It is probable that Dr. McDowell, and other operators later, made use of fine strings cut from the skin of the deer which had been tanned after the methods of the Indians, then, and for a long time after, in common use. These gave a ligature greatly superior to that cut from skins tanned by the modern methods.

Dr. John Bellinger,[1] of Charleston, S. C., in 1835, successfully performed ovariotomy, tying two arteries in the pedicle with animal ligatures.

Dr. Thomas Young,[2] of Edinburgh, writes, in 1813: "I have often wished to try ligatures, made of catgut, which might be absorbed." Professor Paul F. Eve,[3] of Nashville, Tenn., wrote, in 1876: "I have been in the habit of using the sinews of the deer for ligating vessels, for forty years. I have never used carbolized spray. The tendons of the deer, dried and torn into shreds, and rolled into ligatures, are what I employ. They are absorbed; I have occasionally used them as sutures, but generally apply silk for this purpose."

These fragmentary experiences, drifting down to us through the years, teach that there was more or less blind groping after a something that should serve a better purpose than that which the routine of daily practice, in the use of the hemp or silken ligature, afforded. It was reserved for the present generation to make possible a scientific basis for the better consideration of ligatures and sutures in their application to the living structures. In the light of our present knowledge of surgical pathology, the opposition to the ligature in the days of Ambrose Paré, which we have been wont to attribute to the conservatism of ignorance and stupidity, is invested with a new and vital interest. The amputated limb, seared with the hot iron, as a hæmostatic, a measure most barbarous and revolting, gave as a result an aseptic wound. Repair was necessarily slow and tedious, but abundant granulation supervened, before decomposition ensued, to protect from septic absorption.

The constricting ligature, the septic, pocketed wound, with little care as to cleanliness, gave such secondary fatal results that we are led to wonder that the innovation of the ligature, in the closing of the great vessels, became the established practice. Had it not been for the frightful dangers from secondary hemorrhage after the use of the cautery, slow healing giving imperfect results, it may well be questioned if even the indomitable spirit of Ambrose Paré could have made the innovation survive his own time.

A deeper philosophy sought solution of the problem, as to the causation of suppuration in wounds, and if its prevention was not within the possibility of the rule, rather than the exception. The studies of Pasteur, Tyndall, our own Jeffries Wyman, and others, undertaken for the solution of the problem of spontaneous generation, brought fruitage to the human race little dreamed of by these wise philosophers.

The genius of Mr. Lister seized upon the application of the thought, and with a patient, investigating spirit, and painstaking toil, worked out the fundamental factors of the rôle of ferments in wounds. It was not until rules could be formulated, based upon the scientific deduction that operative wounds should be free from suppurative processes, hitherto considered almost necessary concomitants, that the proper conditions for the study of ligatures and sutures were rendered possible. Of necessity in intimate association with the question of the treatment of operative wounds arose, *de novo*, a most interesting chapter devoted to the best means of controlling arterial hemorrhage.

It was clear that the hitherto prevailing method of ligation, leaving the ends of the ligature long, extending from the wound, by so much at least prevented primary union; while cutting the ligature short, and closure of the wound, were fraught ever with disastrous consequences, when the septic ferments were thereby deeply buried. When aseptically applied, the constricting silken ligature too often proved an irritating foreign body, to be ultimately slowly eliminated.

In retrospect, with present knowledge, what seems simple factorage of the problem proved extremely difficult

[1] American Journal of the Medical Sciences, 1837, vol. xxi., p. 380.
[2] Introduction to Medical Literature, 1813, p. 418.
[3] Transactions of the International Medical Congress, Philadelphia, 1876. Antiseptic Surgery, by John T. Hodgen, M.D., p. 523.

of solution. The conservatism of thought, the prejudices of the large number of the surgical authorities of the time, wedded to present measures, misled by other phases of dominating thought—the so-called vital processes of inflammation, irritation, cell-proliferation, etc.—engrossed the subject with many difficulties. The demonstration that fermentation and suppuration in a wound resulted from the introduction of a *something* from without was the first real step of progress. To eliminate that something was the next problem for solution. It was clearly shown that the torsion of an artery to procure rupture and intrafolding of its interior coat, causes permanent closure of the vessel, and that the living structures, unpoisoned by germ infection, possess the power of easy disposition of the aseptic necrotic portion devitalized by violence.

Histological study demonstrated that the necrosed part no longer underwent the changes which had formerly been supposed necessary for the elimination of dead material, known as suppuration, gangrene, etc., but that the part becomes invaded by living cells which, little by little, produce a local change marked by early disappearance of the necrosed tissue. This naturally led up to the thought, if extraneous animal tissue could not be prepared in a way that, introduced into the vitalized structures, would be followed by a similar result.

Mr. Lister having determined that the safe rule of practice demanded the consideration of every wound, as one primarily infected by the omnipresent atmospheric germ, based as fundamental the principle of the treatment of every wound by agents capable of destroying ferments therein accidentally lodged—the so-called antiseptic method of wound treatment. To this end he found carbolic acid in varying strength of solution eminently advantageous, pursuing his aërial enemies by impregnating the atmosphere immediately about the wound with a carbolic acid solution in fine subdivision, as spray.

Repeated experimentation taught that small pieces of dead tissue, preserved in carbolic acid solutions, incorporated into the living structures, were disposed of in a manner not unlike the necrosed portion of a twisted artery, and led to the inference that animal tissues properly preserved could be used for the constriction of vessels. In looking about for suitable material of animal type to be used as ligature, the catgut prepared for musical purposes naturally offered itself. It proved comparatively easy, by immersion for a considerable period in a carbolic solution, to render the material non-infective, but, as a soft, slippery strand, it lacked necessary qualities in which to make a secure knot, and by its early softening in the tissues, loosened and thereby failed to secure the end sought. A long immersion in an oily solution of carbolic acid, to which a very little water had been added, produced a material change of structure—a kind of tanning process thereby resulted, which gave to the material the quality of less easy softening in the tissues, as well as retaining a firm knot, which was ultimately disposed of by the surrounding structures.

I know of no series of experimental studies better worthy of admiration, or emulation, than Mr. Lister's experiments undertaken for this purpose upon the lower animals, which the laws of England necessitated his resorting to the Continent in order to make possible. The resulting changes, histologically shown to have taken place in ligatures applied to the vessels of the lower animals, examined at different periods, taught that the cell-proliferation at first enclosed, and later on penetrated, the carbolized ligature, until, little by little, it became replaced by living connective-tissue cells—a discovery the importance of which is scarcely fully appreciated, even to the present time. Mr. Lister's experiments were limited to the ligation of vessels, and there has resulted from his teachings the surgical treatment of the great arterial system with a safety hitherto deemed impossible. The larger vessels are now tied in continuity, in close relation to their bifurcations, even the greater trunks, with a seeming impunity little less than startling.

Returning in 1870 from my studies at Edinburgh under Mr. Lister, liberally supplied with a variety of the materials which he then advised in operative treatment, I not only made use of catgut for the ligation of vessels, but accident early furnished me the opportunity for a new application of the ligature, in the form of buried sutures. February 19, 1871,[1] I closed the ring, necessarily greatly enlarged for the reduction of a strangulated hernia, with deep sutures of catgut. This I did in order to retain the abdominal contents, because of the severe asthmatic bronchitis from which the patient was also a sufferer. The resultant permanent cure of the hernia, with a marked proliferation of tissue along the line of the buried sutures, led me to inquire if the sutures buried in the part had not been disposed of in a manner similar to that demonstrated by Mr. Lister, resulting about the catgut ligature surrounding the arteries.

I immediately instituted a series of experimental histological studies upon the lower animals, and demonstrated that, along the track of an aseptically buried suture, cell-proliferation rapidly supervenes, and that new cells invade the softened tissue, and *pari passu* with its absorption, a *living band of connective-tissue cells* replaces the whole line of the suture. If rapidly absorbed, the proliferated cells are minimized; as the process goes on more slowly the change becomes more distinctive, until, in young animals, in ten to fifteen days all trace of the suture as such is lost. The value of such reinforcement of the tissue along the line of the sutures became at once apparent in their application to the cure of hernia, and, little by little, I early extended their use to the closure of wounds of every description, publishing, from time to time, my results.[2]

In the pursuance of my studies, I early had occasion to examine a great variety of the specimens of catgut offered in the market, although from the first I adopted what seemed to me the wise precaution of preparing my own sutures. In catgut, there are, of necessity, certain inherent defects. Its method of preparation is not generally known to the profession, who have rarely questioned the product beyond the condition in which it is offered for sale prepared for the musician. The best of these varieties usually come from Italy, prepared from the intestines of the sheep of the mountainous districts. The small intestine necessarily undergoes maceration until the connective-tissue layer which, as a loose fibrous sheath, unites the mucous and muscular coats of the intestine, is softened, and can be easily separated in a manner not unlike that practised in the preparation of the intestine of the pig for the making of sausages. This is split by a cork, armed with sharp blades, drawn through the circular sheath, dividing it into sections to produce the desired size. These ribbons are twisted, dried, and oftentimes sandpapered to give evenness to surface, and usually put up in little skeins from twelve to fifteen feet in length—the catgut of commerce.

The connective-tissue cells of the fibrous coat of the intestine are irregularly disposed, the fine fibrils more commonly crossing diagonally to the longitudinal axis of the intestine, a wise distribution of this strengthening portion of the intestine to allow considerable change in its shape. When carefully examined, under a low-power lens, the fibres are seen to be irregularly interlaced, not unlike a strip of cloth cut diagonally. The gut, even in the dry state, has a perceptible yield on tension, and every musician knows the care requisite to protect his strings against moisture. Frequent allusion is made in the classics to the care demanded of the bowman in this respect.

[1] A New Use of Carbolized Catgut Ligatures for the Cure of Hernia. Boston Medical and Surgical Journal, November, 1871, vol. viii., page 315.

[2] The Radical Cure of Hernia, by the Antiseptic Use of the Carbolized Catgut Ligature. Transactions of the American Medical Association, 1878. Animal Ligatures. Annals of Anatomy and Surgery, 1881, page 232. The Animal Ligature. New England Medical Monthly, June 15, 1882, page 387. The Restoration of the Perineum by a New Method. The Physician and Surgeon, May, 1887, page 201; August, 1887, page 350.

when it was customary to string the weapon with animal products.

Macerate a piece of catgut until it can be easily unfolded, the above condition is readily apparent. Moreover, its division is rarely uniform, and, when sandpapered the removal of the irregular projections causes oftentimes large abrasions, or rents. No matter how prepared for surgical use, ultimately the result obtained will depend, in considerable measure, upon the integrity of its structure, since the component cells are, little by little, separated by the penetration of the new proliferating tissue. The long maceration in the first stage of preparation, remaining for a considerable time a putrefying mass, necessarily damages the material, not only by softening the adhesion of the cells, but infecting them with bacteria; and in the use of the catgut for all surgical purposes it is important, as the first step in preparation, to destroy any germ infection that may remain. After this has been effected, no method which I have tried gives a result equal to that formulated by Sir Joseph Lister.

"Dissolve one part of chromic acid in four thousand parts of distilled water, and add to the solution two hundred parts of pure carbolic acid, or absolute phenol. In other words, I use a one-to-twenty watery solution of carbolic acid, only that the carbolic acid is dissolved not in pure water, but in an exceedingly dilute solution of chromic acid. But, minute as is the quantity of the chromic acid, it exerts, when in conjunction with carbolic acid, a most powerful effect upon the gut. The first effect of the addition of the carbolic acid to the chromic acid solution is to change its pale yellow color to a rich golden tint. But if the liquid is allowed to stand without the introduction of the catgut, it changes in the course of a few hours to a dingy reddish-brown, and a considerable amount of gray precipitate is formed. If, however, catgut about equal in weight to the carbolic acid is added as soon as the ingredients are mixed, the liquid retains its brightness, and the only change observed is a gradual diminution of the depth of the yellow color; the precipitate, which I presume still occurs, taking place in the substance of the catgut. As soon, therefore, as the preparing liquid has been made, catgut equal in weight to the phenol is introduced into it. If you have too large a proportion of catgut, it will not be sufficiently prepared; if you have too small a quantity, it may run the risk of being over-prepared. At the end of forty-eight hours catgut steeped in such a solution is sufficiently prepared. It is then taken out of the solution and dried, and when dry is placed in one-to-five carbolic oil. It is then fit for use."[1]

It improves by age, and is better not to be used until after it has been several months in carbolic oil. The preliminary disinfection of the gut is of the first importance, since preservation of the hardened structure in the carbolized oil may not penetrate to the destruction of bacteria within the strands.

I have elsewhere published[2] in detail the micrococcal infection developing only along the line of the buried sutures, of four consecutive surgical cases, giving evidence upon which I deduce the conclusion that it could have been only to this inherent defect of the catgut, which had been selected from freshly opened preparations, preserved in carbolic oil, which were sent me from London.

"A great deal of difficulty had been experienced from time to time in the use of catgut, in the formation of stitch abscesses, and the following methods of preparing silk and gut were put to trial: . . .

"The original catgut, as taken from the carbolic oil, was cultured and found to show organisms in every case. . . .

"It is difficult to understand how germs can live that have been immersed in an alcoholic solution of 1 to 1,000 corrosive sublimate, but it is suspected that the hardening of the catgut, prior to complete sterilization, shuts up within the substance of the gut a certain number of organisms, which remain latent until they are placed in living tissues; when the catgut swells the germs are set free, and stitch abscesses result. . . . Reverdin reports a series of experiments in reference to the sterilization of catgut. He found that crude catgut which had not been kept in fat to preserve it, which was exposed for four days to a constantly increasing temperature, maximum 140° C., and then placed for a day in oil of juniper and kept in alcohol, was aseptic. This he had used clinically for eighteen months with perfect results.

"V. Boret has cultured the catgut preserved by Reverdin in bouillon, glycerine, and sugar, at different temperatures, and found that there was no reaction at the end of six weeks. Boret has tried the other methods of sterilizing catgut, and found that, bacteriologically and clinically, they failed. . . .

"*Conclusion.*—Small catgut was found, as ordinarily prepared, to be always sterile; large catgut, never.

"As catgut is too valuable a material to be discarded, the writers would advise the method of Reverdin, by heat, which is bacteriologically a good one."[1]

Dr. Macewen[2] published a very interesting article giving his method of preparing catgut, so as to render it more reliable, by immersing it in a watery solution of chromic acid—1 to 5—and adding one part of this to twenty of glycerine. Remove in two months and preserve ready for use in carbolic acid and glycerine—1 to 5. By varying the strength, gut is prepared possessing different degrees of resistance to absorption in the tissues. My own experience of animal sutures prepared in this way has not been satisfactory.

I have also used catgut prepared in oil of juniper and kept in alcohol, but think it inferior to chromicized gut.

Owing to these inherent defects in catgut, in common with other surgeons, I was led to inquire if there were not other animal tissues better suited for surgical purposes.

The tendinous structures of the body present the connective-tissue cells parallel and firmly united to each other. Although generally thus disposed, there is considerable variety in the arrangement of the cells, making a parallel separation much more uniform in some tendons than in others. As far as possible, a detailed investigation of animal tendons of sufficient size has been prosecuted, with varying success.

The tendons of the hind leg of the moose and caribou, soaked in a sublimate solution until soft, were the first tested. A considerable portion of the tendon may be subdivided sufficiently fine for sutures, in length from fifteen to eighteen inches.

Dr. John H. Gilman,[3] of Lowell, called my attention to tendons from the whale, stating he "had used them with great satisfaction in the ligation of vessels." Specimens were sent me from Provincetown four feet in length and of sufficient strength to draw a cart, but the ultimate fibrils were interlacing, while the whole tendon was interspersed with adipose cells. I obtained ligatures also from the whale tendon which were made under the direction of Dr. T. Ishigure,[4] of Tokio, Surgeon-in-Chief of the Imperial Japanese army. The mode of preparation is given as follows: "First, a whale's tendon is dissected by the points of needles, and teased out until the fibres look very like those of hemp. Secondly, the longest and finest fibres among them are selected, and they are then

[1] In several instances I have known sutures to be ruined by a misunderstanding of the above directions of Mr. Lister, much too large a quantity of chromic acid having been used. It may simplify to remember the quantity is about four grains of chromic acid to a quart of a saturated solution of carbolic acid.

[2] The Surgical Advantages of the Buried Animal Sutures. Journal of the American Medical Association, July 21, 1888.

[1] H. L. Burrell, M.D., and G. R. Tucker, S.B.: Ligature and Suture Materials. Medical communications, Massachusetts Medical Society, article xxv.

[2] William Macewen, M.D.: Chromic Gut: Its Method of Preparation and Behavior in Living Tissues. Glasgow. Annals of Anatomy and Surgery, 1881, p. 128.

[3] Boston Med. and Surg. Journal, October, 1880, p. 433.

[4] E. A. Otis, M.D.: The Whale Tendon Ligature as a Substitute for Lister's Catgut Ligature. Boston Med. and Surg. Journal, September 30, 1880, p. 331.

spun together as ordinary silk thread." There can be no question ligatures thus prepared are very serviceable, but the specimens furnished me were not suitable for sutures.

The Sioux Indian women in the Northwest taught me, in 1882, their manner of sewing buffalo skins with the tendinous structures derived from the fascia lata of the buffalo, which they preserve for this purpose by drying and smoking. During the present summer, I obtained from Mr. Harry Adams, of the Hudson Bay Company, in Winnipeg, Manitoba, specimens from the fascia lata of the moose prepared by the Indians of the far Northwest Territories, as a substitute for that from the buffalo now extinct, called by them Astis. They use it in the dry state, stripping it as they sew, occasionally wetting it in the mouth. Good tendon sutures in any quantity can be obtained from this source. My specimens, however, are not more than fifteen inches long, and are quite inferior to the kangaroo tendon. Some years since, a distinguished Russian surgeon sent me similar specimens from the reindeer, finely divided and slightly twisted. These I prepared and used with satisfaction.

In 1880, Dr. S. G. Simmons, of Charleston, S. C., sent me admirable specimens of tendons from the tail of the fox squirrel, with the statement that he had often used them for delicate surgical purposes with great satisfaction. This tendon is composed of exquisitely beautiful parallel fibrils, which can be subdivided, without fraying, to the size of fine threads. Their extreme length, however, scarcely exceeds nine inches. Reasoning from comparative studies, it seemed to me highly probable that the kangaroo should possess a tendon, similar in quality, traversing the entire length of the tail. Through the kindness of the late Mr. Alonzo H. Newell, of Boston, for many years a prominent merchant in Australia, I obtained some most excellent specimens. At the International Medical Congress held in London, in 1881, in a paper [1] upon the cure of hernia, I mentioned the use of the tendon suture from the kangaroo and other animals, as especially to be commended. Reference to my recommendation of the kangaroo tendon and its value in surgery, was some time later made in an Australian publication. This came to the notice of Dr. Girdlestone, who wrote me that he had used kangaroo tendons for some years with great satisfaction, and had published the results.[2]

The tendons should be taken from recently killed animals, quickly sun-dried, and kept dry until ready for further preparation. This prevents primary decomposition, which we have pointed out as necessary in the preparation of the catgut. When soaked until soft they are easily separated as fine as desired, with remarkably little waste, and give threads from the size of hairs upward, and from eighteen inches to two feet in length, exceptional specimens being even considerably longer. The kangaroos are so numerous as to make their skins of commercial value, being sent to the United States in lots each of many thousands, yet it is only with the greatest difficulty and expense that I have succeeded in securing tendons sufficient for my own use, although I have sent *carte blanche* orders to various parties in Australia. I was informed they could be obtained in London, but two years ago the enterprising firm of Grosvenor & Richards, of Boston, searched the London markets without avail. Quite recently, Felton, Grimwalde & Co., of Melbourne, Australia, wrote me that they regularly keep in stock tendons prepared for surgical purposes. I cannot doubt that, at an early date, surgeons will be furnished with the kangaroo tendons, which I fully believe are in every way greatly to be preferred to catgut.

In an interesting article published in 1882 by Dr. Girdlestone,[3] he emphasizes the use of the tendon entire as a ligature rather than suture. "In their preparation they should not be removed from the tail *en masse*, but one at a time, without force, as if split longitudinally they could not be relied on. Every diameter that was required was attainable, so that there was no occasion for splitting; neither should two or more tendons be twisted together, as it destroys their flattened form." The advantage claimed is, that they may be used as flat rather than round ligatures, constricting the artery with less liability of cutting the vessel.

Dr. Dudley,[1] of Texas, has written a most interesting article upon the use of the tendon of the lepus, or muleeared rabbit, as a material for ligatures and sutures. Dr. Dudley does not state the portion of the animal from which he obtains the tendon, but describes them as, "an aponeurosis of muscles rolled upon each other, susceptible of being torn into minute threads, if so desired." He first had occasion to use the tendon of the lepus as a suture, in the fresh state, in 1881, finding he had no silk in his pocket-case. He has continued the use of these tendons with the greatest satisfaction to the time of his report.

Dr. Bernes [2] published an interesting study upon animal ligatures in 1874. Although his experiments were not conducted with the care demanded to-day, yet they are still of interest and importance as original studies. They include a large number of experiments upon the lower animals with gut, both carbolized and uncarbolized, peritoneum cut into strips and rolled, as recommended by Dr. Agnew, and beef tendon dried, split into fine shreds and twisted, as well as silk, which was used as a standard of comparison.

"The extreme non-irritating properties of the tendon, coupled with its capacity for fine division, render its slow absorption of decided advantage, since a vessel can be secured with a strand of it so fine as to produce no irritation, and yet sufficient time elapse before its disappearance to render any danger from secondary hemorrhage as remote as in the employment of silk, by which the vessel is usually severed in the course of a very few days. . . . It will be seen that the tendon ligature fulfils all the requirements set down at the beginning of this paper for a substitute for the material now in use. . . . It is, beyond all doubt, ultimately absorbable, so that a ligature of it can be cut off close to the knot and left in the wound. The tendon is by no means so absorbable as catgut."

The use of animal suture requires the same and the only precautions that are requisite to the successful application of the ligature. It *must be* in *itself aseptic;* it must be *aseptically applied* in an *aseptic wound*. When thus applied, the range of its uses may be extended to all operative wounds. It is difficult to conceive of any possible advantage to be derived in the treatment of any aseptic wound by leaving it open—the so-called open-wound method.

Before the rôle of bacteria in wounds was understood, when it befell from chance, rather than scientific care, that primary union supervened, it is easy to understand how many who dreaded the daily experiences of fermentative material retained in pocketed wounds not only refused to rely upon drainage with occasional irrigation, as a sufficient preventive of septic poisoning, but they insisted, as far as possible, upon allowing no recess in which purulent material could gather. In order to effect this, the lips of the wound were separated and kept apart by antiseptic dressings, so that the wound might heal by granulation from its very base. This is manifestly safer for the patient, and the result attained is not unlike that from the repair processes which supervene in the secondary healing of infected wounds; but those who advocate this method thereby confessedly acknowledge their lack

[1] The Cure of Hernia. Transactions of the International Medical Congress, 1881, vol. ii., p. 446.
[2] T. M. Girdlestone: Tendon Ligatures. Australian Medical Journal, Melbourne, 1877, vol. xxii., p. 356.
[3] T. M. Girdlestone, M.D., F.R.C.S.: The Surgical Uses of Kangaroo Tendons, British Medical Journal, p. 228, February 18, 1882.

[1] H. W. Dudley, M.D., Hillsboro, Tex.: Animal Ligatures and Sutures, Transactions Texas State Medical Association, 1884, p. 133.
[2] Joseph Bernes: Animal Ligatures, Philadelphia Medical Times, August 8, 1874, pp. 708–11.

of confidence in the modern methods of wound treatment, and their inability to protect wounds from infection.

In rare instances it has been claimed that the resulting citatricial union gives an increased strength to the parts involved, an opinion which it seems easy to show is unscientific and contrary to the general consensus of surgical opinion.

If it is correct to assume that the theoretic perfection in wound-treatment, which it is the ambition of the surgeon to attain, means a reunion of the divided parts, the anatomical relationship to be restored and maintained, then the suture holds a higher place in surgery than ever hitherto considered.

If the suture itself is replaced by vitalized structures, then its proper application becomes of the highest importance, the value of which the profession is only recently seeming to begin to realize. Given, as illustration, the joining of a divided retracted nerve, or muscle, and its restoration to subsequent perfect usefulness; the sundered cervical tissues after a hysterectomy, where the delicate joining of the peritoneum allows no open wound for hemorrhage or absorption; the reunion of the abdominal wound after laparotomy, where the peritoneum is independently united by a layer of buried sutures, and where the linea alba, or the muscular aponeurosis of the sheath of the recti is carefully rejoined, since the adoption of which method I have not had a single case of ventral hernia; or, again, in the amputation of large tumors of the breast, where the remaining tissues are carefully coapted, so that retention and pocketing of fluid are impossible, rendering drainage not only superfluous but harmful.

I would not underestimate the importance of drainage in wounds that are necessarily septic, and in this class of wounds there is no advantage to be gained in the attempted use of the buried suture.

The recent discussions upon the uses and advantages of the buried animal suture are both interesting and profitable. A valuable article, based upon original observations, was published in Germany by Dr. Werth,[1] in which he advocates the use of catgut, in the repair of the perinæum, as an interrupted buried stitch. These were taken between one and two centimetres apart, the gut tied and cut short upon the knot. In cases where the surfaces to be coapted were large, a second row of stitches was similarly placed. Great care was exercised in making the application under aseptic precautions, and most satisfactory results were obtained.

Schroeder[2] repeatedly used catgut as a buried continuous suture, and commended it highly. Dr. A. Martin[3] is less enthusiastic, and says: "I, myself, have tried catgut sutures according to Werth five times; the results were not favorable, but I must admit that in two of these cases the catgut may have been too old."

Doléris[4] recommended knotting the thread, from time to time, of the continuous suture, and believes the buried gut is absorbed in seven or eight days. He reported to me when in America, in 1887, a still further satisfactory use of buried animal sutures.

Bröse[5] writes approvingly of buried catgut sutures rendered aseptic by a corrosive sublimate solution and preserved in absolute alcohol.

Dr. C. B. Keetley[6] published a valuable article upon the uses of the buried suture. He ascribes to Professor Esmarch's assistant, Neuber, and Professor Küster, much valuable original work with the use of the buried suture, especially in amputations, thereby doing away with drainage. He writes: "Küster read his paper at the last meeting of the Society of German Surgeons. In the discussion that followed, Esmarch having stated that, with these sunk sutures, drainage-tubes could be altogether dispensed with, he was asked, 'What, after excision of the hip?' He thereupon answered shortly and decisively, 'Yes.'"

In conclusion, he says: "I have to say that it is only in strictly antiseptic surgery I would venture to recommend the use of these sutures, but that in the case of all surgeons who have faith in the antiseptic theory and practice, they will find in buried sutures an effective and beautiful addition to their methods."

Mr. John Wood[7] writes in regard to femoral hernia:

"Latterly, I have found the use of tendon ligature so satisfactory, that for this operation I prefer it to wire. The wound usually closes over it and heals by adhesion at once, and there is not the pain and inconvenience of the withdrawal of the wire. So far the endurance of the tendon, when buried in the tissues, has been long and satisfactory enough to maintain the cure, which has been watched, noted in some cases about two years."

My own experience with the buried animal suture commenced with its use in the case of hernia above referred to, in 1871, and this, with other cases where the cure was believed to be referable to the buried suture, was first published in the *Boston Meaical and Surgical Journal*, November, 1871. In 1878 I contributed a paper on the subject at the meeting of the American Medical Association. In 1881 a further contribution upon the same subject, emphasizing the value of the tendon suture, was published in the "Transactions of the International Medical Congress."

These and various other articles, giving the results and surgical advantages of the use of the buried animal suture and its adaptability to special purposes, were reprinted and widely distributed to the profession, both in Europe and America.[8]

If the premises which I have assumed in the early discussion of this paper are correct—that a properly prepared aseptic animal suture, aseptically applied, retains its strength sufficiently long to hold at rest the coapted parts until primary union is effected, and then itself slowly disappears, after having fulfilled this function, to be in a measure replaced by vitalized connective tissue—there can be little wanting to attain the theoretic perfection in the suturing of wounds. The first observations which I published, perhaps naturally, provoked only incredulity, and the results were considered at best accidental. The evidence already accumulated and presented to the profession, by a great variety of observers in different parts of the civilized world, is now sufficient to substantiate this claim.

Silk has justly held a high place in the esteem of the profession because of its exquisite perfection of preparation, and it has been claimed, if rendered aseptic, that it was equally safe as a buried suture. Mr. Lawrence,[9] the distinguished English surgeon, made many interesting and valuable studies upon the ligation of vessels with silk cut short and buried in the wound. His efforts to minimize what he considered the irritating foreign material are very instructive:

"The method I have adopted consists in tying the vessels *with fine silk ligatures* and cutting off the ends as close to the knot as is consistent with its security. . . .

[1] Ueber die Anwendung versenkten Catgut-suturen bei Operationem in der Scheide und am Damm. Dr. Werth, Kiel. Centralblatt für Gynäkologie, November 8, 1879, p. 561.
[2] Centralblatt für Gynäkologie, July, 1885.
[3] Martin: Diseases of Women. English edition, p. 170. 1888.
[4] Archives de Tocologie, February, 1885.
[5] Centralblatt für Gynäkologie, 1883.
[6] The Buried Suture. C. B. Keetley, M.D. British Medical Journal, May 2, 1885, p. 880.
[7] Lectures upon Hernia and its Radical Cure. 1885.
[8] Animal Ligatures, Annals of Anatomy and Surgery, July, 1881, p. 232. Cure of Hernia by the Antiseptic Use of Animal Ligatures, Transactions of International Medical Congress, 1881. Animal Ligatures, New England Medical Monthly, June, 1883. The Restoration of the Perineum by a New Method, Journal of the American Medical Association, October 27, 1883. Reprint. The Surgical Advantages of the Buried Animal Suture, Journal of the American Medical Association, July 2, 1885, Reprint. The Perineum; its Anatomy, Physiology, and Methods of Repair after Injury. Philadelphia: William J. Dornan. 1889. A Treatise on Hernia: The Radical Cure by the Use of the Buried Antiseptic Animal Suture. Published by George S. Davis, Detroit, Mich., 1889.
[9] William Lawrence: New Method of Tying the Arteries in Aneurism, etc. Medico-Chir. Trans., vol. vi. p. 156. Cooper's Medical Dictionary, vol. ii., p. 129. 1836.

Of the silk which I commonly employ, a portion sufficient to tie a large artery, when the ends are cut off, weighs between one-fiftieth and one-sixtieth of a grain."

He adds: "Although I have not yet ascertained what becomes of the pieces of ligature after the wound is united, I have never seen abscesses or any other bad symptom occasioned by them."

Mr. Lister early experimented very carefully with silk, steeped in various substances, immersed in melted wax and carbolic acid to render it aseptic. In further proof of its innocuousness, it has been claimed that it is also an animal product, and that the tissues should be capable of assimilating it into their own structures. My distinguished friend, Dr. Pancoast, of Philadelphia, believes the fault lies, in large measure, in the introduction of lead during its preparation, and that hence the use of iron-dyed silk is greatly to be preferred:

"It is innocuous, does not produce suppuration along the track of its thread, and the color adds much to the ease with which it may be distinguished for its removal."

Advantages, doubtless, but the necessity of removal emphasizes the fault in material, and not in the color or the skill of application, which renders it manifestly unfitted for use as a buried suture.

The general verdict of surgical opinion, and it has certainly been often repeated in my own experience, is that aseptic silk, aseptically applied, may be incorporated into the tissues, but remains encysted, and often, after a considerable lapse of time, causes irritation and is expelled as a foreign body.[1]

The mode of application of the buried suture is of the greatest importance. Without exception it should be a continuous suture, since thus used more perfect coaptation of the parts can be obtained, while, as far as possible, knots should be avoided. It is important to minimize the material consistent with careful coaptation. It should join like tissues, periosteum to periosteum, muscle to muscle, deep fascia to deep fascia, and skin to skin, after deep incisions of all kinds. It should support the parts always without any constriction of tissue. Having secured these ends, it matters comparatively little by what manner of stitch it is applied. The opinions of operators will be modified in preference for the methods to which they have become accustomed.

For certain purposes it has seemed to me a manifest gain to include the tissues by a double suture, taken by means of a needle with eye near the point, which allows the ends of the suture to be introduced through the same puncture from opposite directions. This of necessity encloses, and should coapt, but *must not constrict*, the tissues involved. The advantages of this stitch are most apparent in certain operations, and I have especially advocated its use in the closure of the canal in hernia, in suturing the pedicle of uterine and ovarian tumors, and in perineorrhaphy.

For wounds in the intestine, and in resection, I have repeatedly used a double layer of tendon sutures, the Lembert stitch, taken as a continuous, not an interrupted, suture. The finer curved Hagedorn needles are the best. The needle pierces the peritoneum as in the Lembert stitch, entering and emerging about two lines from the sides of the wound. This intrafolds and coapts the peritoneum evenly. In resection of the intestine, or if an incised wound is long, I take a second layer about one-fourth of an inch outside of the first, coapting more peritoneum and thereby burying entirely the first line of sutures. Post-mortem intestine thus joined will hold water, and in a well-vitalized subject the effused lymph, in a few hours, entirely covers in the affected part. The advantages of this method are simplicity, rapidity of operation, avoidance of knots, a minimum of manipulation and of injury of the tissues involved, even and sure closure of the parts—all of which are of the first importance to a good result, as well as to the security and non-irritability of the tendon suture.

As far as possible, the sutures should cross the wound at right or acute angles and not lie parallel with it. For the coaptation of large wounds, as in amputation of the breast, I have found it a decided advantage to use a running stitch, taken from side to side, both ends left externally free, tension upon which evenly coapts the sides of the wound. Fine tendons are thus introduced in two, three, or more layers, commencing at the very base of the wound.

The skin is evenly coapted by a blind running stitch taken from within outward through the deeper layer only. This evenly unites the edges of the skin, while the suture itself is buried beneath it. The wound is dried, dusted with iodoform, and covered with a layer of iodoform collodion, reinforced by a few fibres of absorbent cotton. The ends of the deep lines of the running sutures, after sufficient tension has been exercised to produce coaptation, are fixed in the collodion and cut off.

The subsequent dressing matters little; a soft pad of cotton may give comfort by its support, but if the wound is *aseptic* at the close of the application of the iodoform collodion, it being presupposed that each step has been taken with modern aseptic precautions, *primary union will supervene, and drainage is not only needless, but is a positive disadvantage and danger.*

Aseptic wounds thus treated give really a simplicity of detail which seems surprising when contrasted with the clumsy and bungling antiseptic dressings which this method—the aseptic application of buried animal sutures—is destined to supersede. In conclusion, the rôle of the buried animal suture may be accepted as a corollary to antiseptic surgery, upon the basic principles of which it is founded as a scientific deduction.

[1] New York Medical Journal, September 14, 1889, pp. 296 and 297: discussion upon silk ligatures and sutures buried in wounds.

CASE OF PAPILLOMA OF LARYNX CURED BY INTUBATION.

By J. F. BALDWIN, M.D.,

COLUMBUS, O.

JUNE 30, 1889, Albert C——, aged eight years, was brought to my office from Jersey, O., having been referred to me by the family physician, Dr. J. T. Mills. His history was given as follows: Until the age of two years he was as healthy as other children. At that time he was affected with scarlet fever, during convalescence from which it was noticed that he was hoarse and could only speak in a whisper. This was supposed to be due to a partial paralysis of the vocal cords, and a favorable prognosis given. But these symptoms did not abate, and after some months there was decided dyspnœa. A physician of this city was then consulted, who made a laryngoscopic examination, pronounced the trouble tuberculous, and sent the child home to die. The dyspnœa was at this time extreme, the child breathing like one affected with croup. He was kept confined to the house for weeks at a time during inclement weather, and never allowed to be out in the evening air, as the slightest laryngitis, the result of exposure, would cause an exacerbation of the dyspnœa. Repeatedly, during these attacks, his life was despaired of, and on one occasion Dr. Mills undoubtedly saved him by passing a rubber catheter into the larynx. His breathing during these years was rapid, and his pulse was never less than 120. He was greatly emaciated and anæmic; could take no active exercise, and could talk only in a whisper.

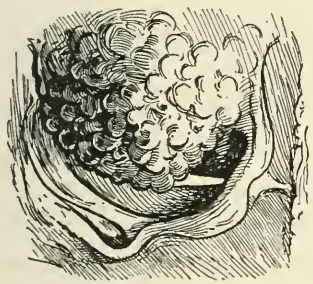
I found him in the condition indicated above. His weight was thirty-one pounds. On making a laryngoscopic examination, I found a large papilloma attached by a rather broad base to the edge and upper surface of the left vocal cord, and to the anterior angle between the cords. The tumor was rather soft. During inspiration it would flap across the chink, obstructing it momentarily; then, as the inspiratory effort increased, would be sucked below the cords, allowing the air to enter. During ex-

piration this action was reversed. This to-and-fro flapping could be distinctly heard as well as seen. Dr. Clarence Maris, who had studied under Morell Mackenzie, saw the case with me, and said the tumor was the largest he had ever seen.

As his breathing was very labored at this visit, and he had not come prepared to remain in the city, I inserted an O'Dwyer tube and sent him home. He returned July 3, breathing much easier, although he had coughed the tube out the day after its insertion. The tumor was evidently smaller, as viewed with the laryngoscope, so much so that I remarked to those present that if its removal by means of laryngeal forceps failed, I should try the effect of persistent intubation before performing laryngotomy.

The parts about the larynx were unusually sensitive, the slightest contact of any foreign body causing spasmodic closure of the larynx. This sensitiveness was not relieved in the least by the long-continued use of a strong solution of cocaine, so that I was compelled to use chloroform. Under this I was able to seize and remove a small piece of the growth, but not enough to give any relief. Drs. Nash and Wright were assisting me, and we decided that the boy was too weak to bear prolonged anæsthesia.

On July 4, the use of the tube was again resorted to, with the determination to give it a fair trial. On the 9th, I commenced the use of the largest tube in the case, in order to get more pressure. The case was peculiar in that it was impossible for the patient to swallow the least



particle of food or drink without choking. Every method known to intubationists was tried, but all failed. I therefore adopted the plan of removing the tube about 9 A.M., and replacing it at 6 P.M. This worked admirably, especially as the removal of the tube was much simplified by the use of the laryngoscope. The tumor could be seen to be diminishing in size daily. The boy was breathing easily, and eating well. Intubation was continued daily (except during two periods, of about three days each, when he went home for a visit) until August 7th. At this time the tumor had essentially disappeared from the cord, although there still remained a little growing from the surface in the anterior angle between the cords, where little or no pressure was exerted by the tube. To remove this growth, I had two little curette-like projections of gold plate soldered onto the tube, as shown in the cut. The use of the tube, as thus armed, for two days (making two withdrawals), sufficed to remove every vestige of the growth, and the case was dismissed.

The most noticeable effect of the first insertion of the tube, aside from the relief to respiration, was the change in the pulse-rate. For years the pulse had never been less than 120 per minute; it now dropped to 80, and remained there. The boy gained four pounds in weight while under treatment, and ten pounds during the next four weeks; an increase of nearly fifty per cent. September 5th he reported for examination. Vocalization was distinct, but harsh. No evidence on inspection of any return of the growth. At this date, November 30th, he is reported as strong and well, going to school, and talking as well as any boy of his age.

As this method of treating a case of this sort was to me novel, I wrote, August 3d, to Drs. O'Dwyer and Waxham, asking them for information. Dr. O'Dwyer replied that he had not before believed that enough pressure could thus be brought to bear to do any good. In a case of papilloma, in a child aged three years, he had left a tube in continuously for about ten days, without effect. Subsequently, he coated the head and neck of the tube with dried alum, by means of gelatine, and inserted it, recoating every third day. This he continued for two weeks, but without effect. He does not state what size tube he used.

Dr. Waxham replied that he had had but one case of papilloma which he had treated incidentally by intubation. "The case was that of a boy, aged two and a half years. I was not called until the danger from suffocation was imminent. I introduced the tube as a temporary measure, which was worn a week, and then patient did well without it for several weeks. The dyspnœa, however, returned. I then coated the tube with gelatine, and applied chromic acid, and then another coating of gelatine. Several applications of chromic acid were made in this manner. I then left for Europe, leaving the boy with the tube *in situ*. The physician in whose care I left him had some difficulty in extracting the tube, and performed tracheotomy and removed the tube. Upon my return I found him wearing the tracheotomy tube, and the larynx entirely closed by adhesions. Laryngotomy was performed, the adhesions broken up, and the remnants of the growth removed, and an intubation-tube introduced. He has now been wearing the tube over a year, and is still unable to breathe without it. The difficulty has been from the adhesions rather than from the growth."

It seems a pity, since the wearing of the tube for a week gave relief for "several weeks," that the effect of persistent use of the tube was not tried before resorting to the caustic.

I am unable to account for the persistent inability of my patient to swallow food without choking; out of about forty cases of intubation that I have had, this is the only one presenting that difficulty except temporarily.

August 28, 1889, Anna McN——, of Lafayette, O., aged nine years, was brought to my office, suffering from extreme dyspnœa, due to tuberculous growths in the larynx involving both cords, though mainly the left. Both lungs were also involved, and it was evident that she could live but a short time. Intubation relieved the dyspnœa at once. She coughed the tube out in four or five days, but her breathing remained easy, and on inspection the growths were found much reduced in size. She died in about six weeks, but the laryngeal obstruction did not return.

I wish to place these two cases on record, hoping that they may serve to broaden the field for intubation.

Note.—As ordinarily made, the shank of the obturator is stiff, with a single joint. While the expert intubationist finds no difficulty in withdrawing this obturator, the tyro will not infrequently find it to catch and cause delay. To obviate this difficulty, I some time ago had Shepard & Dudley make me a set of obturators, in which the stiff shanks were replaced by braided silver wire. I have found them a decided improvement.

The Morphine Habit is said to be constantly on the increase in this city, as well as elsewhere, a number of the victims being physicians. A corroboration of this report is found in the fact that a single firm in Portland, Me., has made and sold over four thousand needles for hypodermic syringes every year for the past six years. Other places, of course, make many more, and it is evident that they are not all used by physicians only. It has been proposed to restrict the sale of hypodermic syringes to practising physicians, but it is very doubtful whether such a measure would be of any use, as the law would be evaded just as that against the sale of poisonous drugs is now.

ON THE VALUE OF ABSOLUTE REST AND STARVATION IN THE EARLY STAGE OF TYPHOID FEVER.

By R. F. LICORISH, M.D.,

BRIDGETOWN, BARBADOES, WEST INDIES.

PROBABLY there are few physicians in the present day who recognize the possibility of aborting typhoid fever. Of the medicines and other means brought forward as having that end, none have stood the test of experience, hence any new method that may be proclaimed as having that claim will probably receive but little attention.

From these considerations I have hesitated long before putting this, my experience, before the profession. Having, however, decided that to get at the truth of anything it is best to put it to the text of many experimenters, I offer it through these pages with the hope that those who follow its suggestions may get the same results as the writer.

For the past six years I have adopted a plan of treatment in typhoid fever having for its chief objects the re-establishing of the appetite and the retaining of the heart's strength; objects which, in the treatment of all acute diseases, are of the first importance.

In the treatment of typhoid our aim should be: 1, Maintaining the heart's strength; 2, re-establishing the appetite; 3, maintaining mental quietude; 4, providing thorough ventilation.

The last two of these appeal so to everyone as to render it useless to say anything further about them. The first two, although equally recognized as of the utmost importance by all, are yet more difficult in carrying out; hence, any method by which they may be attained certainly deserves attention. In order, then, to maintain the strength of the heart, I rely on absolute rest in the horizontal position; and the earlier this is resorted to the better will be the results. I make it a practice to enforce on the patient, at my first visit, the importance of at once assuming that position, and also of maintaining it faithfully until the crisis has passed and convalescence is well established. He must not on any account rise even to the semi recumbent position. To avoid rising to take food and medicine, and going to stool, a bedpan and feeding-cup are brought into use at once. Even the exertion of changing clothes is not allowed until all danger of doing so is past.

The importance of this absolute rest is soon shown on the heart, which maintains its strength and regularity to a surprising degree.

To restore the appetite, I instruct the nurse not to give the patient any nourishment until he calls for it; but to give water whenever required. Sometimes about four ounces of milk is allowed daily until the appetite returns, which is usually about the fourth to the sixth day. Thus, to starve a patient suffering from a disease, the most frequent cause of death from which is heart-failure, must, to some, appear almost criminal. We must remember, however, that this treatment is only recommended in the early stage, *i.e.*, before the heart has become weakened by the fever; and also that the treatment is only carried out in those who maintain the horizontal position—the best heart tonic. Moreover, in the early stage of typhoid fever, as well as in all other acute diseases, the digestive tract is in a state of catarrhal congestion—a condition, we have every reason to believe, which not only lessens, but also vitiates the digestive secretions, hence but little nourishment can be assimilated.

The result of this treatment is soon apparent. The patient, from being thus deprived of food, after a few days says he feels hungry, or expresses a wish for certain articles of food. His appetite is returning! When this is gained the battle is half won; for convalescence is soon established. By starvation the stomach gets rest—no food being introduced which it is unable to digest—all effete material is carried off, the catarrhal condition is reduced, the appetite is regained, and with these the temperature, showing no inclination to ascend, either remains stationary for a few days, or shows a decline at once.

After the appetite is thus regained the utmost care should be exercised in giving nourishment, which must be very gradually increased, for if the appetite be again lost the temperature rises and other symptoms appear. When seen early and thus treated, it is the rule for a normal temperature to appear from the tenth to the fourteenth day, or even as early as the eighth, when treatment is begun as early as the first or second day of the fever.

At first it was a matter of doubt to me that typhoid fever could be so modified and aborted; but I have so frequently seen it occur in the treatment of over six hundred cases as to leave no doubt whatever on my mind.

Of course the question naturally arises. Were such cases true typhoid fever? If unable to answer this question in the affirmative, the following reason, however, enables me to answer in the affirmative one of equal importance. Can typhoid fever be aborted? It is this: I have again and again seen cases so treated and aborted pass through marked typhoid relapses from neglecting those precautions necessary to prevent them.

Conspicuous, too, in these aborted cases is the absence of tympanites and diarrhœa, except in rare cases; thus proving that those two conditions are largely, if not solely, due to over-feeding.

Typhoid relapses are, in almost every case, due to one or more of the following causes: 1. Too early physical exertion, as sitting up in bed, etc. 2. Too early resort to solid food, or to over-feeding. 3. Mental excitement.

That cases of this fever are protracted to five, six, or even seven weeks, certainly shows a fault in their management somewhere; usually either on the part of the physician or that of the nurse. There are cases, however, in which all the blame lies on the patient himself, and this is seen most frequently in his sitting up before being allowed to do so; hence the physician should take the trouble of reiterating his injunctions frequently.

That physicians do not in all cases recognize the danger of allowing patients to sit up in bed is seen in the number of cases in which they are allowed to sit up in the second and even in the third week of the fever, and not until the appearance of heart-failure is the horizontal position strictly enjoined. Now, as "prevention is better than cure," would it not be wiser to enforce that position in the earliest stage? thereby preventing heart-failure or its appearance?

The general practitioner certainly has a great advantage in seeing disease in its beginning, and the great aim should be to "nip it in the bud." As a rule, however, we get little credit for checking a disease in its first stage; whereas we get applause when we pull a patient through a severe case. If, however, the patient dies in spite of our efforts, Providence is saddled—often, however, with the fruit of our carelessness or ignorance.

I am very glad to see that Mr. Lawson Tait recognizes the value of starvation, in not allowing nourishment to those operated on for nearly forty-eight hours after the operation. This is surely one reason for his great success as an operator.

The following conclusions may then be deducted from the preceding statements: 1. That typhoid fever may be aborted. 2. That to be so aborted the patient must be seen and treatment begun within the first few days of its onset—initial chill. 3. That our chief aim should be to restore the appetite, so that the patient may be nourished and rendered able to throw off the disease. 4. That to create an appetite the patient should be deprived of food until nature demands it; or if any be given, only in very small quantities at a time. 5. That the maintenance of the horizontal position so retards or prevents heart-weakness as to enable us to starve the patient without any risk. 6. That great care should be taken in feeding the patient after he has regained his appetite; for should it be again lost the temperature rises and a relapse occurs.

I must here state an important point in the treatment,

omitted above. It is this: After a normal temperature has been gained, at least one week should elapse before the patient be allowed to sit up, and at least ten days before solid food be given, and then only in very small quantities at a time. By attending to these precautions relapses are prevented, and the patient never in any danger. Of course I give medicine to meet symptoms as they arise; but as I was never able to abort cases before adopting the above treatment, I of course conclude that rest and starvation are the agents to which the results are due.

This treatment, thus shown to be so efficacious in typhoid fever, I have put into practice in other acute diseases with equally satisfactory results, although in those diseases the same data for drawing conclusions are not present as in a disease running a definite course, as typhoid fever.

Given the means whereby the patient may be starved without risk, may we not also treat successfully many chronic local congestions and inflammations, bringing to our aid, after the removal of the congested condition, such means as massage and feeding to complete the cure? May not such diseases as cirrhosis of the liver and pelvic congestions, etc., be amenable thereto? My experience in this class of diseases is so limited as to allow me only to throw out the hint, leaving to others, who have the courage, to carry out the suggestions.

December 14, 1889.

Clinical Department.

A CASE OF RELAPSING APPENDICITIS—REMOVAL OF APPENDIX—RECOVERY.

By B. E. HADRA, M.D.,

PROFESSOR OF SURGERY, TEXAS MEDICAL COLLEGE.

The history of the following case is not published with the intention of settling the question whether appendicitis (perityphlitis) should receive surgical treatment or not, and under what conditions. My object is to add another to the small number of cases of relapsing appendicitis which have been subjected to operative interference, not prompted by necessity, but rather with the view of preventing dangerous consequences. Since Treves' classical researches and the publication of his first operation (*Medico-Chirurgical Trans.*, 1888), to my knowledge, only three such operations have been performed—one by Treves and Swallow (*Lancet*, 1889), one by Senn, and one by Hoegh (both reported in the *Journal of the American Medical Association*, November, 1889). All the cases terminated favorably. Being one of the safest and simplest of abdominal operations, it only takes more practical experience to place it among the list of the recognized and generally accepted procedures. There is, of course, a vast difference between an operation when there is active inflammation, abscess, perhaps perforation and peritonitis, and such cases where there is, at the most, a chronic irritation or a very slight chronic inflammation, or some malposition, twisting, or any other abnormality, at the bottom of the trouble.

Case.—A sturdy German baker, aged fifty-two, was taken with constipation and colics about six months before operation, which was performed on October 6, 1889. He could assign no cause for it. The usual treatment—attempts at evacuation of bowels by enemata and opiates—relieved him promptly. Three or four similar attacks were checked by the same means. They occurred at intervals of one to two weeks. There never was much difficulty in moving the bowels. Gradually the intervals became shorter, so that two attacks occurred in the same week. He became accustomed to treat and relieve himself by morphia and rectal injections. I saw him first, in a more severe attack, about six weeks previous to the operation. The cæcal region was then resistant to the touch, but no distinct tumor could be felt. At a second visit, eight days before operation, the same condition existed, but there was a spot, the size of a silver half-dollar, about two inches inside of the anterior superior spine of the ilium, which was extremely tender and which was insisted on as the site of the pain in every attack, and of a dull neuralgic sensation at other times. The patient, claiming to be perfectly invalided, insisted upon an operation, at which I had hinted.

On October 6th, after the usual preparations, and just after an attack had faded away, with the assistance of my colleagues, Drs. Dock, Sykes, and West, the following operation was performed. The usual crescentic incision, the convexity to the right, of about six inches, was made over the cæcum, so as to make the painful point the centre. On opening the healthy peritoneum the tip of the appendix presented at once. The latter was about two inches long, thicker than a common pencil, had a complete mesentery, and was nowhere adherent. Its peritoneum seemed slightly cloudy. Altogether it would at the first glance have passed as a healthy organ. The cæcum showed no alteration at all. Thus, though the appendix appeared not particularly diseased, its abnormal position—in front of, and nearly across the end of the cæcum—and its location corresponding exactly to the seat of the pain, caused me to proceed, nevertheless, to its removal. It was tied close to the cæcum and cut off. The cavity of the stump, containing some fecal matter, was well rubbed with iodoformed cotton, and closed by three Lembert sutures.

All other steps were those usual in laparotomy. Everything went on smoothly except that the skin-wound, from some unknown cause, did not heal by first intention. The pain and tenderness disappeared, and have not returned to this date, nearly four months after the operation.

Pathological Report by Dr. George Dock.—"The appendix as removed was not quite two inches in length and about three-eighths of an inch in diameter, being wider than the average. Externally it showed no alteration, except slight cloudiness of the peritoneum. It contained a small quantity of thin, yellow, feculent matter. On cutting it up along the mesentery several dark reddish, slightly elevated spots appeared in the mucous membrane. They were round or oval, and from a quarter to half an inch in greatest diameter. There appeared to be no breach in the continuity of the mucous membrane. The specimen was placed at once in strong alcohol and hardened. Sections were cut later, and stained with hæmatoxylin and eosin, and with Loeffler's alkaline methylen-blue. All these show to a greater or less extent the following: The surface epithelium is intact, the tubular glands unaltered. Below and above the lymphatic nodules, and to a less extent in the intertubular tissue, are hemorrhages, the extravasated blood lying in foci the size of a pin's head, or intimately mixed with the elements of the tissues. The veins of the submucosa are all dilated and filled with blood, the arteries, almost without exception, empty. The lymph-nodules show no other alteration, but there is a slight general increase of small round cells near them and in the neighborhood of the blood-vessels of the submucosa. The muscular coat shows no alteration. The serosa, compared with that of other specimens, is slightly thickened. The changes here, aside from the hemorrhage, are so slight as scarcely to deserve mention.

"The total absence of pigment masses and the general appearance of the effused blood shows the hemorrhage to have been of recent occurrence, and in the absence of other signs of active inflammation I am disposed to look on it as passive, caused by the ligature. (It may be well to add that the blood-vessel walls show no alteration, nor are there any bacteria in the tissues.) I look on the specimen as an example of chronic catarrhal appendicitis of mild grade."

I think I am justified in claiming a cure by the operation, as perfect relief has been obtained from the moment

the appendix was removed. The question, though, arises, What was the cause of the trouble? Was it the slight catarrhal alteration of the mucous membrane, or the still slighter irritation of the serosa? or was it rather the unusual position—perhaps, also, a temporary twisting only of the appendix—with consequent circulatory disturbances? Not being able to decide positively, I am inclined to adopt the latter explanation, in view of the report by a perfectly competent pathological anatomist. It is difficult to understand how an inflammation of the appendix, serious enough to cause such distressing symptoms, could disappear in two or three days and leave hardly a trace behind. On the other hand, it may be assumed that the appendix, always or temporarily holding this unusual relation, may have brought on a kind of strangulation of the cæcum, whenever the latter accidentally became overdistended. This is, of course, speculation, but it may go to show how manifold may be the first causes of perityphlitis (appendicitis). Treves' contributions, already alluded to, threw valuable light on these obscure ailments, and we should follow his advice, and operate wherever the trouble assumes a relapsing form. I would add the proposition to do so, if possible, in a free interval, as we may then expect the least inflammatory complications and the least reaction.

WHERE DID THE BULLET GO?

By C. B. WOOD, M.D.,

HONOLULU, H. I.

The following case is reported by way of caution in this day of bold operative surgery, and to emphasize the importance of Dr. Senn's hydrogen test in cases of gunshot wounds of the abdomen.

The patient, Chun Tai Choy, a Chinaman, twenty-one years of age, was brought into the Queen's Hospital at 8 o'clock P.M., on October 11, 1889, suffering from a perforating pistol-shot wound of the abdomen.

The following is the history obtained from his friends: On October 9th, at about 8 P.M., or forty-eight hours before his admission to the hospital, the patient, while in the act of urinating, was shot from behind by another Chinaman with a revolver of probably 32 calibre. This occurred in the country, about thirteen or fourteen miles from Honolulu. On the morning of October 11th they started for town with him, being obliged to cross a mountain pass over twelve hundred feet high on the way. He was brought to the foot of the pass in a brake, carried to the top, and brought the rest of the way in a carriage, reaching the hospital as before stated, at about 8 P.M. When admitted to the hospital he was in excellent condition, notwithstanding the long and hard journey. There were no signs whatever of collapse. His pulse was good and not over 80. Temperature not over 101° F. The only pain complained of was in the left thigh and leg. There was very little tenderness over the abdomen.

On examination the wound of entrance was found to be at about the junction of the last dorsal with the first lumbar vertebra, the inner edge of the wound being just ¼-inch to the right of the median line of the back.

A tape-line carried around the body on a level with the wound crossed the linea alba at a point midway between the ensiform cartilage and the umbilicus. The direction of the wound was downward and forward. The wound of exit was one inch above the pubic arch, directly in the linea alba. It seemed impossible that a ball could have passed through the body in the course that this one had apparently passed without perforating the intestines. But the man's whole condition was so good that an operation was out of the question, considering that forty-eight hours had already elapsed since the injury.

For the same reasons Dr. Senn's test with hydrogen gas was not made use of. Antiseptic dressings were applied and an hypodermatic injection of morphine (¼ gr.), and atropine ($\frac{1}{150}$ gr.) administered. The subsequent treatment consisted in keeping the bowels confined with opium for the next five days, during which time a liquid diet only was allowed. At the end of this time an enema was given and the bowels emptied. No bad symptoms followed. The range of temperature was as follows:

October	12th,	A.M.	Temperature	101.4.	P.M. 102
"	13th,	"	"	100.4.	" 103
"	14th,	"	"	100.6.	" 101.4
"	15th,	"	"	99.6.	" 100

After the 15th the temperature was normal. The patient had no bad symptoms at any time, and the only pain complained of was in the left leg and thigh. On the 16th or 17th he got out of bed and walked, and now (21st) is on ordinary diet. Of course the bullet did not perforate the intestines, but it is hard to understand *why* it did not.

HERNIA CEREBRI.

Dr. C. E. Olmsted, of Syracuse, N. Y., writes that when he was one of the visiting physicians of the Board of Health in this city, he saw a peculiar case of protrusion of brain-substance through the frontal bone. The tumor was congenital, the child at the time he came under Dr. Olmsted's notice being five years of age. The opening in the frontal bone was about the size of a silver dollar. The pulsations in the tumor could be distinctly seen as well as felt. The child had convulsions at irregular intervals, coming on apparently without any special exciting cause. At these times the brain-substance would recede through the opening in the skull, and then the defect in the frontal bone could be readily defined by the finger. Upon the cessation of the convulsions the tumor would again become apparent, forming a projection on the forehead about the size of a plum.

DILATING URETHROTOMY.

Dr. H. W. Streeter, of Rochester, N. Y., writes: "I believe the importance of dilating urethrotomy is not sufficiently appreciated by the profession at large, although a vast literature on the subject has accumulated during the last fifteen years. For the purpose of assisting to popularize one of the most useful operations in all surgery, I submit the following report of a year's work. I have operated in cases of gleet, 129 times, spermatorrhœa, 54, impotence, 38, premature emissions, 23, irritable bladder, 6, sciatica, 2. One of the latter was cured, and one not benefited. Four of the cases of irritable bladder were cured, one improved, one unrelieved. In fully ninety-five per cent. of the other cases the results have been eminently satisfactory. Most of these cases were of old standing, and had been treated in the usual way by internal medication, injections, or electricity. In view of this there can be no doubt that the results were due to the operation. To those who are inexperienced in dilating urethrotomy and prejudiced against it, I would say 'try it.' No man was ever converted to belief in the reflex influence of genital irritations, especially of stricture, against stronger prejudices than the writer."

The Origin of Fever.—M. Roussy, in a paper read before the Academy of Medicine by M. Schutzemberger, states that fever is often the result of soluble non-organic principles, but of microbian origin, being introduced into the animal economy. He has ascertained that injecting into the blood or under the skin water in which different organic matter has been macerated also determines a febrile condition. M. Roussy has isolated the pyrexogenic element, and concludes from the results of his experiments that certain diastasis or zymosis (soluble ferments) have a febrile influence; the water in which the yeast of beer has been macerated is an instance. M. Roussy used the same method as M. Berthelot for obtaining "invertine," and it is possible that the body discovered by M. Roussy is identical with invertine.—*The British Medical Journal.*

Progress of Medical Science.

Absolute Milk Diet in Cardiac Disease.—A critical paper on the value of absolute milk diet in heart disease has been published by H. Högerstedt. Urged by the objection brought forward by F. A. Hoffmann in his discussions upon total milk diet, that there are no reliable recorded histories where the milk regimen has been pursued in a strictly scientific manner, the writer describes fully a carefully followed-out case, from the Dorpat clinic, of pure mitral stenosis, in which Karell's total milk regimen was repeatedly followed with excellent results. From the circumstance that pure mitral stenosis, where there is commencing failure of compensation, opposes the utmost difficulties to therapeutic treatment by the ordinary cardiac remedies, the author believes that he had a peculiarly favorable opportunity of judging of the influence of pure milk diet upon the action of the heart. The case observed was in an advanced degree of failure of compensation. Digitalis, tried after complete failure with calomel, was of no service; caffeine also had no effect; there was no tonic action upon the heart; and the state of the patient was extremely serious from the general venous congestion and weakness. On the contrary, the result with total milk diet, after six months' observation, twice repeated, was most striking. The highly favorable action on diuresis and pulse became evident as early as the fourth and fifth day after the commencement of exclusive milk diet; and at the same time there supervened a remarkable diminution of congestion and a general improvement in the condition of the patient. From experiments made under different dietetic conditions the author was able to draw up the following table:

	Diuresis.	Albuminuria.	Pulse frequency.	Coogestion.	General condition.
Absolute milk diet.	Rapidly increases and remains great.	Rapidly diminishes and disappears.	Becomes less until it reaches and falls below normal.	Diminishes and disappears.	Improves surprisingly.
Milk diet principally	Gradually falls.	Steadily increases.	Very gradually increases.	Very slowly increases.	Gradually gets worse.
Full diet.	Very slight.	Remains constant.	Remains high.	Reaches a high degree.	Bad.

It is important to insist upon gradual increase of the amount of milk taken, and to give it in small quantities (Weir-Mitchell). As regards the difficulties to be encountered in the carrying out of repeated cases of the milk regimen, the practitioner must not yield but continue firm. Though according to Hoffmann's experiments under other conditions an absolute milk diet is undoubtedly hunger diet, yet in the case of the sick kept from working and needless loss of heat, as among children, it may become a growing diet. Indeed, we possess in total milk diet, in so far as pathological and anatomical conditions do not prescribe limits to us, a remedy for failure of compensation in cardiac disease which can favorably influence the power of the heart and the blood formation, even when reliance upon every medicament must be altogether doubtful.—*The Practitioner.*

European Infantile Mortality.—A comparative study of infant mortality in different European countries has been made by Dr. Fodar, with the following results: Of 1,000 children born alive, 106.3 die during the first year in Norway, 137.1 in Sweden, 154 in England, 169.1 in France, 217.7 in Prussia, 220.1 in Italy, 254 in Hungary, 258.2 in Austria, 317.1 in Bavaria, and 329.5 in Würtemburg. With regard to Bavaria, there is considerable difference in the infant death-rate in different districts. Thus in Suabia it reaches the enormous figure of 409 (nearly four times as great as that of Norway), and in Upper Bavaria it is 406, while in the Bavarian palatinate it is only 187. From these statistics it would appear that the hygiene of infancy is better understood in Norway than elsewhere, and that German nurslings are either particularly delicate or particularly unfortunate in the mode of their bringing up.—*Deutsche Medicinische Wochenschrift.*

Total Extirpation of the Patella.—Dr. E. Kummer, of Geneva, has published a contribution on this subject, in which he advocates the following propositions: 1. Total extirpation of the patella can be performed without impairing the patient's gait or markedly interfering with movements of the knee-joint. 2. The operation is indicated in cases of tubercular osteitis of the patella, provided the articulation remains yet intact. 3. The extirpation can actually prevent the development of articular lesions and thus save the knee-joint, provided the operation is resorted to sufficiently early. 4. In cases of tubercular osteitis of the kneep-cap a total removal of the bone offers better chances in regard to recovery than scraping out the morbid foci (*évidement*). Hence, as a rule, the former operation should be preferred to the latter. Dr. Kummer adduces an illustrative case, referring to a girl, aged twenty-five, with primary tuberculosis of the right patella, but with a perfectly intact knee-joint, where he made excision of the bone, and that with excellent results. When shown to the Société Médicale de Genève, about two months after the operation, the patient was able to extend her right lower limb as under normal conditions; would kneel with perfect freedom, and without any pain or discomfort; could walk four or five hours daily without lameness or fatigue, or run up and down staircases with ease, etc. In short, the only inconvenience caused by the absence of the knee-cap consisted in a relatively weakened extension of the corresponding limb. A similarly successful case of total removal of the patella has been published by Professor Kaufmann, of Zurich. in the *Correspondenz Blatt für Schweizer Aerzte.* The patient, a married lady, aged thirty-three, was suffering from fungoid osteitis of the left knee-cap, of eight years' standing. The operation was performed in November, 1882. A month later the lady, being frightened by a fire next door, tore off all dressings and ran out of her house, having swiftly descended a staircase. "Since then her knee-joint remained perfectly movable, her gait normal." Dr. Kummer mentions further two cases of primary tubercular osteitis of the patella (in boys of ten and seventeen) in which the whole of the bone was removed by Professor Th. Kocher, of Berne. In both, however, the knee-joint did not recover its movements (in one the articulation had been already partially destroyed by fibroid anchylosis, and remained anchylosed in spite of the operation; in the other the extirpation was resorted to rather late. An interesting case of total excision of the patella for acute necrosis has also been published in *The Lancet*, March 16, 1889, by Mr. Page, of Newcastle-on-Tyne. The patient recovered with a perfectly useful limb.—*The Provincial Medical Journal*, January, 1890.

Paralysis from Arrest.—Professor Eulenburg has recently reported a case of the above kind of paralysis following arrest. In 1882 Bernhardt first drew attention to the fact that grasping of the arm, as performed by police officers in the act of arrest, over the part where the radial nerve comes to the front, was followed sometimes by paralysis of the hand. He reported some cases. Bernhardt in consequence of his observations made the suggestion that officers should grasp their charges immediately above the wrist. Professor Eulenburg's case shows that even grasping in this locality can be followed by evil consequences if the force used is sufficiently energetic. During a short walk of not more than three hundred yards, the median nerve, in this case, suffered sufficient compression to produce paresis, implicating both sensory and motor functions.—Berlin Correspondent of the *Medical Press and Circular.*

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THE MEDICAL SERVICE IN THE MERCHANT MARINE.

IT is strange that so little attention should be paid to the medical service on passenger ships when everything else that can in any way contribute to the comfort and safety of those who cross the ocean is made the subject of most careful study. The navigating officers, the engineers, and even the seamen are selected with care, and it is very seldom that one who is not known to be competent is accepted by any of the steamship companies. Yet when it comes to the selection of the officer to whom the health of the passengers and the hygienic management of the vessel is, or ought to be, confided, no care whatever is taken in the majority of instances to exclude those who may be utterly incompetent. The companies seem to regard it as an imposition that they should be compelled to provide a physician, and they take any man that comes along and can get a recommendation from some friend of the management. An amusing illustration of the indifference with which the companies, and the public as well, regard this important matter was shown not long ago in the case of two rival lines sailing from this port to the South. The vessels of one of the lines carried physicians, and so stated in their announcements. The other company thereupon advertised that they did *not* provide surgeons, and as they lost nothing by this course in the way of passenger traffic, the other company dismissed their surgeons and pocketed the small salary that they had paid them.

There are, of course, some good men in the employ of steamship companies, but they are unfortunately in the minority, and it is safe to say that a large number of ship's-surgeons would with difficulty be able to hold their own in competition with their confrères on land. The blame for this state of affairs rests—where shall we say? With the companies or with the travelling public? Of course the companies are at fault in not having the best men that could be found for the service, yet they can hardly be blamed so much for not going to the expense of providing high-priced surgeons when the patrons of the lines do not demand it. The average pay of a ship's surgeon is $50 per month, a sum that would tempt only a very young man, one who had failed on shore, or one whose love of the water or whose health drove him to a seafaring life. Of the latter there are not a few, yet the former class, we fear, will contain the majority. If a larger salary were paid, and a closer scrutiny were made into the qualifications of the surgeons, it would not be difficult to bring the service up to any reasonable standard of excellence. But that would take money, and in these days of active competition the steamship companies have little money to spend in what they consider useless luxury.

There is little hope, then, of an improvement in the medical service on ocean steamships until the travelling public realizes how its interests are neglected in this respect and until it demands of the steamship companies a reasonable amount of care in the selection of the medical men to whom are intrusted the lives of the passengers.

EVERY MAN WITH HIS OWN DISPENSARY.

IN a recent article in these columns upon the dispensary abuse we suggested that each man might have a dispensary of his own if he were so disposed, giving a part of certain days or of each day to the poor. We are glad to learn that this suggestion has already been acted upon by one gentleman at least, and we hope that he is only the pioneer in a reform that will undoubtedly benefit in no small degree the younger practitioners in this city or in any city in which the custom may be adopted. This gentleman has had cards printed after the model of the regular dispensary card, stating that he will give free consultations to the poor from nine to ten o'clock every morning. The card also contains the announcement that a certain druggist in the neighborhood will put up prescriptions at half price.

The doctor has been accused by some of his brethren of unprofessional conduct in publishing the fact that he will treat the deserving poor gratuitously, but we must confess that we fail to see wherein the unprofessional conduct lies. It would have been better, we think, had the apothecary's name not appeared upon the doctor's dispensary card, but that is perhaps a matter of taste rather than of principle. As for printing and distributing the cards, there is no crime in that, or if there is, there are many criminals in this good city of New York. The dispensaries distribute cards with the names of the attending physician upon them, and some of them did, not long ago, and may now for all we have heard to the contrary, advertise in the daily papers, giving not only the names of the attending physicians but also their addresses. If a corporation of physicians can publicly advertise, why should a private individual be debarred from letting it be known quietly that he is ready to run an opposition to the corporations in caring for God's poor. His right to give his services can certainly not be questioned, and it is our opinion that there is nothing unprofessional in systematising his charitable work by appointing stated hours and by giving cards to his free patients. His dispensary has as much right to exist as any other, and methods that are legitimate for a public dispensary are also proper for a private one.

The dispensary evil is a real one, it is taking the means of livelihood away from many deserving young men, it is growing constantly, and it must be combated to be kept within proper bounds. The remedy that we have suggested seems to us to be the only effectual one. We congratulate our friend who has had the courage to oppose

the evil by starting a dispensary of his own, and we should be glad to see the example that he has set followed by other physicians throughout this city. An attempt was made some time ago to organize concerted opposition to the dispensary abuse, but for some reason the movement never came to anything, and there is nothing left but for each individual to act for himself.

THE MEDICAL PROFESSION AND THE WORLD'S FAIR.

The World's Fair, if there is to be one, will be held in Chicago in 1892 or 1893. We have already called attention to the fact that American medicine and surgery should be represented, and represented well on this occasion. It will not be necessary to attempt to hold a large series of International Congresses, as was done in Paris. We doubt very much if this could be done very successfully. Even at Paris these Congresses were not, as a rule, very notable gatherings, and were made up mainly of the French.

It would be possible, however, for the profession of the three Americas to make some most interesting exhibits, and to have some very instructive conferences.

Illustrations of the development of medical, surgical, and sanitary science, and of hospital construction, should be made, and the occasion might well be taken to bring into closer relations with us the medical fraternity of Central and South America.

For these various purposes a good organization and plenty of money will be needed. Probably the machinery of the American Medical Association will be employed in carrying out the plans. This Association has always made Chicago its centre, and although a good deal of criticism has been passed upon its efficiency and methods of work, yet the organization can be made no doubt to rise to the coming emergency.

We have no doubt that our Chicago brethren will be heard from when the proper time comes.

THE HISTORY OF MODERN MEDICINE IN JAPAN.

Dr. S. Nagayo, Director of the Sanitary Bureau in Tokio, recently delivered a very interesting address before the medical society of that city, in which he gave a history of the introduction and growth of Western ideas of medical practice in Japan (*Sei-I-Kwai Medical Journal*, December, 1889). Although some Spanish physicians appeared in Japan over three hundred years ago and instructed some of the natives in the healing art as it was practised in Europe at that day, yet when the persecution of the Christians began what little knowledge had been acquired speedily became traditional merely and was practically lost. About the year 1750 a native of Japan, Dr. Rankwa Maeno, became interested in the methods employed by the foreign physicians in the treaty ports, and learned the Dutch language in order to study the books in which this knowledge was contained. It is he that may justly be called the father of Western medicine in the East. He soon gathered around him a number of men who were eager in their study of Dutch, and employed their knowledge of the language in translating all the books on medical topics that they could procure. As an illustration of the perseverance of these pioneers in this branch of study it is said that they were able to translate only one or two lines of a medical book in an evening, yet such was their diligence that ten large volumes of translations were published within a few years.

The first modern hospital was established about thirty years ago, and with it was begun a school where both didactic and clinical instruction was given. The leaders in this were Drs. Pompey, a Dutchman, and Matsumoto, a native. Instruction was given continuously in this school, but it was difficult to get students to attend with regularity, many of them coming for short periods only, and apparently with the design merely of copying some of the prescriptions rather than of grounding themselves in the science of medicine.

It was not until after the revolution, in 1868, that medicine began to make any real and satisfactory advance, but when once it started fairly its progress was most satisfactory. At this time the military hospital at Yokohama was removed to Tokio, and the medical school was established there, many of the teachers being foreigners. A few years later the course of studies was graded, and the beginning was made of the medical department of the university. From this time the progress of modern medicine in the country was very rapid, the number of students increasing from year to year, and the proportion of physicians who practised according to the new methods becoming constantly greater. So striking, indeed, is this marvellous progress that we may well pardon the little conceit with which Dr. Nagayo closes his address, when he predicts that it is reserved for the physicians in Japan to unravel the truths of creation, and open to the world the gate of this great mystery.

THE MONUMENT TO DR. J. MARION SIMS.

It will please the many subscribers to the J. Marion Sims Fund to learn that the committee having the subject of a suitable monument in charge have given unceasing attention to the subject ever since the money to be appropriated in this way was so promptly and cheerfully contributed by the many friends and admirers of the late Dr. Sims. Endeavors were made to place the execution of the work in this country, and to this end a considerable number of models were submitted to the committee for approval by the Profession, and were exhibited in the parlors of the Academy of Medicine in this city. None of them, however, gave sufficient satisfaction to warrant the committee in an acceptance, and they were again obliged to seek for further propositions from sculptors, and this time they invited proposals from abroad. The design for a full-length figure, to be cast in bronze, nine feet in height, submitted by the Koniglischer Ergiesserei, of Munich, Bavaria (the most celebrated bronze foundry in the world), has given general satisfaction to the committee and to the members of the family of the late Dr. Sims who have seen it. The contract for its execution has therefore been awarded to Mr. Von Miller, the proprietor of the foundry. A recent letter from him states that they are proceeding with its execution. It is expected that it will arrive in America some time next year, accompanied by the design and working-plans for a granite pedestal of about eight feet in height. The question of its site in the Central Park

of this city, as first proposed, will, therefore, soon arise for consideration. It is proper for us to state further that the money contributed for this purpose has been, since its collection, deposited and still remains at interest with the United States Trust Company of this city.

News of the Week.

Dr. Caspar Barstow, of East Hartford, Conn., died in that town on February 22d. The cause of his death was pneumonia, following influenza. Dr. Barstow was thirty-five years of age, and was graduated from the University of Vermont in 1878. He began the practice of medicine in Windham County, Conn., and settled in East Hartford about five years ago.

A Woman's Medical College has been established at Atlanta, Ga., and the first Commencement was held on February 21st, the graduating class numbering one.

The Dispensary Abuse in Baltimore.—New York is not the only city that suffers from this evil, and now the physicians of Baltimore are complaining of the inroads made upon their practice by the dispensaries. The Johns Hopkins Hospital Dispensary is especially obnoxious to the medical residents in the northeastern part of the city, and it is charged that no discrimination is made against well-to-do patients, a large number of these received and treated being amply able to pay good fees for medical attendance were they compelled to do so. The dentists of the city are also beginning to find fault with the dispensaries on account of the looseness with which they dispense their charity, and a meeting of practising dentists was held recently to protest against the abuse, and to take measures for its correction.

Medical Legislation for Washington.—At the request, it is said, of the Medical Society of the District of Columbia, Senator Ingalls has presented a bill making it the duty of every physician in the District of Columbia to report to the Health Officer immediately he becomes aware of the existence of any case of scarlet fever or of diphtheria in his charge, and if such person shall fail to so report within twenty-four hours, he shall be subject to a penalty of not less than, or more than, twenty dollars, or in lieu thereof, shall suffer imprisonment for not less than one or more than three days. The bill also directs the Health Officer to cause a placard, flag, or warning sign to be displayed on the premises on which the patient is confined. The District Society should have seen that the bill contained a clause giving due compensation in money to the physician for the extra labor and expense it imposes upon him.

A Pneumatoscope.—The cable brings news of the invention of a wonderful instrument in Berlin, by means of which an exact differential diagnosis of diseases of the lungs will be possible. The inventor is Dr. Janiczewski. The description of the instrument is too indefinite to permit of an understanding of its *modus operandi*.

St. Peter's Hospital in Albany has issued its annual report, in which it is shown that there was increased work done during the year, and at a decreased outlay. The number of patients treated during the year was nearly six hundred.

Increased Death-rate in Maine.—In common with al other places Maine was visited by the influenza in January and February, and as a result the death-rate for those two months was greatly in excess of that for the same months in preceding years.

Dr. James Henry Budd, of Geneva, N. Y., was found dead in his bed on the morning of February 25th. Heart trouble is supposed to have been the cause of death. Dr. Budd was forty-four years old, and was graduated from the Buffalo Medical College in 1875.

Dr. Frederick L. Burden died of apoplexy in North Attleboro, Mass., on February 23d. Dr. Burden was born in East Douglass, Mass., in April, 1847. He enlisted in the federal army in 1861, serving during nearly the entire war. He graduated from Harvard Medical School at the age of twenty-one, soon after locating at North Attleboro, Mass. He was a member of the school committee of Attleboro, and was also medical examiner for a number of years. In 1882 he was elected to the State Senate, serving two years. In 1886, 1887, and 1888, he was Chairman of the Republican State Committee. He was a delegate to the last national convention at Chicago, and was one of the prominent candidates for the Collectorship of Boston.

Measles is Epidemic in some towns in Indiana. In Harrodsburg, a place with a population of only about five hundred, there have been one hundred and seventy-five cases.

Dr. Charles H. Miller, formerly of Lykens, Pa., was recently found dead in a freight car in Pittsburg. He was the son of a once prosperous mine-owner, who was ruined, and died in want. Dr. Miller was a physician, but had given more attention to writing than to the practice of his profession. He had a good theoretical knowledge of medicine, but was lacking in energy and other personal characteristics which are almost as necessary for success in practice as is a good education. He was, nevertheless, obliged to turn to medicine for a livelihood, and drifted about from one place to another in unavailing efforts to find enough patients to make a living. Finally, he decided to go West and settle in Kansas. There bad luck followed him. A short time before his body was found in the car in the Pittsburg yards, he wrote to a friend in Lykens that he would starve if he remained in the West, and was determined to work his way East. It is supposed that he was locked in a freight car, in which he was trying to steal a ride, and that he died there from starvation and hardship."

Another Dispensary.—A company with a capital stock of $50,000 has been incorporated in Chicago, its object being "to prescribe medicines and send them to sick people."

Dr. Charles W. Stevens, of St. Louis, died in that city on February 17th, of pneumonia, following influenza. He was born in 1817, in New York State, and had been in practice in St. Louis, with several interruptions, since his graduation in 1842. He was at one time superintendent of the St. Louis County Insane Asylum.

They Want a Doctor.—Eastmanville, Mich., is said to be without a physician, the only doctor in the place having inherited some money, and sought a more desirable residence.

The Case of the So-called Vermont Medical College of Rutland has come up before the Supreme Court, and the legality of diploma-selling in Vermont will now be settled.

St. Luke's Hospital and the New York Cancer Hospital received each a bequest of $100,000, from the late John Jacob Astor.

American Medical Students and German Universities.—The Berlin University has, it is reported, refused to acknowledge the diplomas of six American medical students, and has voted that American medical students shall not be matriculated until by an examination they shall have shown proper educational qualifications.

Dr. W. B. Rogers has been appointed President of the Board of Health of Memphis, Tenn.

The Nervous-Debility Quacks of England have fallen upon evil times. The first prosecution of one of them under the new Indecent Advertisements Act took place recently in Bristol, where a man was charged with advertising "Dr. Lilly's vital tonic, the restorer of vitality, cures nervous debility, losses, etc.," there being no such registered person as "Dr. Lilly." The defendant was also fined ten shillings for the indecent advertisement, and £10 for practising and representing himself to be a medical practitioner.

A School for Studying Lunacy.—The London County Council has decided to erect an hospital, not for the storage of lunatics, but for the treatment of psychological disease, and the instruction of specialists therein. There will be a staff of skilled experts, and the Council is prepared to spend $10,000 a year on it.

The Johns Hopkins Hospital Reports.—The first and second numbers of these proposed reports have been received. They are well printed and contain ten articles, six by Dr. Osler. The sudden gush of medical literature from Johns Hopkins, in the shape of hospital reports and bulletins promises to make a very considerable annual increment to American medical literature. We regret, however, to find good material buried in hospital reports, which documents are, in our opinion, a form of literary superfœtation, only excusable on the ground that they advertise the hospital.

The Mott Memorial Lectures.—The first course of public lectures to be given at the Mott Memorial Library, No. 64 Madison Avenue, began on Monday, March 3d, at 5 P.M., and will continue on Mondays and Thursdays until April 3d. The lectures will be by well-known instructors and scientists upon scientific subjects and will be fully illustrated by experiments, lantern views, and drawings. The Lecture Committee comprises a number of the best known ladies and gentlemen of the city. The subjects as chosen constitute a very attractive programme, while the lecturers are F. Cope Whitehouse, A.M.; Professor W. Le Conte Stevens; H. Carrington Bolton, Ph.D.; Professor John K. Rees; N. L. Britton, Ph.D.; Professor John J. Stevenson, M.D., Ph.D.; Professor Edward S. Morse; and George F. King, Esq. As is well known to most of our readers, the Library of the New York State Medical Association and the Mott Memorial Library have become united under one management.

The Formation of Special Societies is progressing in Germany. The latest is the Vienna Dermatological Society.

Ancient Therapeutics.—Mark Twain, in the February number of *Harper's Magazine*, entertains his readers with some accounts of former medical nostrums, which can be paralleled in the library of many a physician of historical tastes. He quotes largely from an old book called "A Dictionary of Medicine," printed in 1745. He says it was captured by Northern troops in 1861, in Virginia, where it was still believed in and followed. Here is an extract: "A certain merchant about forty Years of Age, of a Melancholic Habit, and deeply involved in the Cares of the World, was, during the Dog-days, seiz'd with a violent pain of his Head, which some time after oblig'd him to keep his Bed. I, being call'd, order'd Venesection in the Arms, the Application of Leeches to the Vessels of his Nostrils. Forehead, and Temples, as also to those behind his Ears; I likewise prescrib'd the Application of Cupping-glasses, with Scarification to his Back: But, notwithstanding these Precautions, he dy'd." Whereupon Mr. Clemens remarks: "Now that we know what the physician did when he wanted to relieve a headache, it is no trouble to infer that if he wanted to comfort a man that had the stomach-ache he disembowelled him."

Professor Daniel Mollière, a well-known surgeon of Lyons, France, died recently from the effects of the influenza.

Foot-Ball Casualties in England during five months, as collected by a *Lancet* correspondent, are as follows: Deaths, 13. Fractures: Legs, 15; arms, 4; collar-bones, 11. Injuries: Spines, 3; nose, 1; knee, 1; ankle, 1; cheek, 1. This is a most extraordinary record, and it is surprising that it excites so little comment. If foot-ball were electric light, the whole country would be boiling with indignation over "the deadly foot-ball," "the lethal sphere," etc.

Popular Lectures.—The members of the Montgomery County (Pa.) Medical Society purpose to give a course of twelve lectures on the care of the sick, including accidents and emergencies, and twelve on physiology and hygiene. The lectures will be free to the citizens of Morristown.

The Tennessee State Medical Society will hold its fifty-seventh annual meeting April 8th, 9th, and 10th, in Chattanooga. The Society was organized in 1831, and this would have been the sixtieth meeting had not the war put an interruption to the annual reunions for a time.

Changes in the University Hospital, Philadelphia.—The authorities in charge of the University Hospital propose some extensive alterations, which, it is hoped, will be improvements. A new mortuary building has been erected and will be opened soon. The lecture-room in this building, for the purpose of conducting autopsies, is said to be one of the best in the country. The hospital is to be re-plastered, repaired, and refitted, and new rooms for the reception of private patients are to be built, new elevators put in, and various other changes will be made in the furnishing and fitting up of the wards and the rooms.

A Medical College is to be established in Wales.

Many Graduates of Many Kinds.—In one short day in the city of Indianapolis, four medical colleges had commencements, each one turning out quite a number of graduates. The names of these colleges are the Central College of Physicians and Surgeons, the Medical College of Indiana, the Indiana Eclectic Medical College, and the Physio-Medical College.

Foreign Doctors and Dentists in France.—The French Minister of Public Instruction has declared officially that hereafter foreign doctors ought to submit their diplomas to the judgment of the French faculties, which would then decide whether they were on a parity with those granted to French practitioners. Furthermore, foreign medical men should be required to undergo the final examinations to which French candidates for the qualification to practise have to submit themselves. He admitted, however, that exceptions might be made for doctors practising in summer and winter resorts. With regard to dentists, he held that it would be well to insist upon residence for a term of three years at the house of a duly qualified French dentist, and registration at a faculty or school of medicine.

The New Hospital at Dartmouth.—The foundations of the Mary Hitchcock Memorial Hospital, to be built by Hiram Hitchcock, of New York, and named in memory of his wife, were laid this week.

The Death of Dr. Paul Niemeyer, a well-known writer and lecturer on hygiene, is announced. He was born at Magdeburg, March 9, 1832, and was for many years a lecturer and private tutor at the university at Leipsic.

American Ambulances.—A writer in the *Sun* says that the American ambulances, which were introduced into Paris a year or two ago, are now one of the recognized institutions of the French capital. People stand and cheer as they go along the street, and ambulance drills are given to all distinguished foreigners. The French Government has given full credit to America for the ideas which at present prevail on the subject, and, indeed, the words "American Ambulance" appear on the sides of the hospital wagons.

Dr. Edward K. Henschel, of this city, died at his residence here on February 28th. Dr. Henschel graduated at the College of Physicians and Surgeons in this city in 1872, and subsequently studied abroad. He acquired a large practice, but two years ago kidney troubles compelled him to visit Europe in search of recuperation. After several months of careful nursing Dr. Henschel started for America in comparatively good health, but while aboard the Bourgogne, en route to New York, he met with injuries that undoubtedly shortened his life. During a heavy gale he was thrown from his feet and knocked senseless. From these injuries he never recovered.

The New York Hospital Collections for the past eleven years show a pretty steady increase in the amount of money given, as may be seen by the following table:

1879	$26,455 07	1885	$46,085 38
1880	44,371 97	1886	53,051 98
1881	42,535 45	1887	50,449 15
1882	30,699 90	1888	52,039 63
1883	43,962 74	1889	57,021 45
1884	36,542 75		

The Successor of Sir William Gull.—There has been considerable speculation in London concerning Sir William Gull's successor as Physician in Ordinary to the Queen. The vacancy will be filled, as a matter of course, says the London *World*, by Dr. Richard Douglas Powell, who is the senior of the three Physicians Extraordinary. When once a medical man has been appointed Physician Extraordinary, his promotion to be Physician in Ordinary is a mere matter of course and question of seniority, and the next vacancy will be filled by Dr. George Johnson. The Queen has four Physicians in Ordinary, and each receives a salary of £200 a year, but, in reality, her Majesty does not call any of them except Sir William Jenner, and Dr. James Reid, her resident medical attendant.

A Hospital for Working Girls.—There is a movement on foot in Boston to establish a hospital, or endow several beds in some existing institution, for the benefit of working-women and girls. The endowment is to be in memory, and to bear the name of the late actress, Mrs. Vincent. Edwin Booth is said to have started the subscription for this purpose with $1,000.

Report on Sanitary Regulations of the Pan-American Congress.—The Committee on Sanitary Regulations of the Pan-American Congress has made a unanimous report in which it condemns absolute isolation in preventing the spread of epidemics, and recommends in its stead the disinfection of all articles from infected localities before they are permitted to be imported into healthy places. The following propositions have been adopted by the Congress on recommendation of the committee:

"That, taking the existing state of the relations between the nations of America, it is as practicable as it is advisable for the promotion of these relations to establish perfect accord with respect to sanitary regulations.

"That the greater part of the ports of South America on the Atlantic are guided and governed by the decisions of the International Sanitary Convention of Rio Janeiro of 1887.

"That although it does not appear that the plans of the Sanitary Congress of Lima of 1889 have passed into the category of international compacts, it is to be hoped that they will be accepted by the Governments that participated in the said Congress, because those plans were discussed and approved by medical men of acknowledged ability.

"That the Sanitary Convention of Rio Janeiro of 1887 and the draft of the Congress of Lima of 1889 agree in their essential provisions to such an extent that it may be said they constitute one set of rules and regulations.

"That if these were duly observed in all America they would prevent under any circumstances the conflict which usually arises between the obligation to care for the public health and the principle of freedom of communication between countries.

"That the nations of Central and North America were not represented either in the Sanitary Convention of Rio Janeiro or the Congress of Lima, but that they might easily accept and apply to their respective ports on both oceans the sanitary regulations before cited."

A draft of the provisions adopted by the Sanitary Conventions of Rio Janeiro and Lima forms an appendix to the report.

Society Reports.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, February 24, 1890.

ALEXANDER S. HUNTER, M.D., PRESIDENT, IN THE CHAIR.

Disciplining Members.—Charges having been preferred to the Committee on Ethics against two members for very unseemly advertising, it was recommended by this committee and the comitia minora that they be expelled. Carried unanimously.

Eye-strain: Its Causes and Symptoms. An Easy, Accurate, and Inexpensive Method for its Detection by the General Practitioner.—DR. FRANCIS VALK read a paper with this title. The desirability of being able to detect errors of refraction by the general practitioner was shown by a statement of Dr. Thomson in a paper read at the last meeting of the Society, that "certain afferent impulses may cause functional nervous diseases," Dr. Hughlings Jackson had said, "since six cranial nerves, and the sympathetic nerve, supply the eye and its apparatus, it is evident that without a good knowledge of eye diseases the thorough investigation of many morbid affections of the nervous system cannot be carried out."

Reflex Nervous Phenomena.—The author was inclined to believe that the peripheral irritation caused by eye-strain, either when the intrinsic or extrinsic muscles were involved, might cause other nervous phenomena, and might be the exciting cause even of functional chorea and epilepsy. Certainly in all these cases the physician should inform himself whether there was any error of refraction which might produce eye-strain—a condition which, if present, should be corrected.

Recently Dr. J. H. Woodward, of Vermont, had published a monograph in which he gave the histories of one hundred and fifty cases of headache, vertigo, lachrymation, nausea, epileptiform convulsions, migraine, neuralgia, etc., in many of which he was able to note the final results after the use of suitable glasses, and he reported that at least eighty-five per cent. were relieved, and only sixteen per cent. failed to find relief. All of these cases had certain refractive errors which, Dr. Valk said, could have been easily recognized by the method which he was about to demonstrate.

Relative Frequency of Different Forms of Refraction.—The late Dr. Agnew had found in 1,060 cases of eye-strain, 281 normal or emmetropic eyes; about 400 hyperopic, 145 myopic, the remainder, 234, with unequal curvature of the cornea or astigmatic in various degrees.

Definitions.—Inasmuch as he was not addressing specialists, the author defined the emmetropic, hyperopic, myopic, and astigmatic eye. The emmetropic was the normal eye, in which when at rest the rays of light coming from an object were focalized on the retina. This was a condition of refraction not often met, and one which seldom caused any symptoms of eye-strain. In hyperopia the optic axis was too short, the principal focus being behind the retina, and consequently perfect vision was not possible without continued exercise of the ciliary muscle. In the myopic eye the axis was too long, and we found the retina beyond the focal distance. In this case there might be no strain at certain distances, yet under particular circumstances or a faulty correction, the eye might feel the strain on the ciliary muscle.

Simple astigmatism was produced by unequal curvature in the cornea, and compound astigmatism by this condition and faulty distance antero-posteriorly, as existed in hyperopia and myopia. To counteract the change in curvature of the cornea there must be unequal contraction of the ciliary muscle in the different meridians, which caused strain and irritation. The ciliary muscle being composed of radiating and circular fibres, contracted, and thus controlled the refractive power of the crystalline lens in such a way as to cause the rays of light entering the eye to focus upon the macula lutea of the retina. The chief and determining cause of eye-strain lay, then, with this muscle.

Subjective Symptoms of Eye-strain.—The most common was headache, generally in the frontal region and about the eyes, sometimes in the occipital, sometimes not specially located. The patient usually could read only for short intervals, shorter at night. He complained that the eyes were weak, they "burned, watered, and had a strained feeling." There might be floating specks before the eyes, the lids stuck together in the morning, there might be dizzy sensations, and even vertigo. When the extrinsic muscles of the eye were at fault, the headache was more likely to be in the occipital region.

A Simple Test Retinoscopy.—In examining the eye by retinoscopy, the patient was placed in a dark room, with a good light above and a little behind, the examiner sitting about forty inches in front of him, looking through a piece of plain mirror at a spot where the quicksilver had been rubbed off an eighth of an inch in diameter. While looking through the aperture the reflected pencil of light from the mirror is projected into the eye, while the patient looks beyond and just past the examiner's ear. We see the pupillary space changed from its black color to that of a beautiful orange-red, with some indistinct apparent shadows at the edge of the pupil as the mirror is moved. Now slightly and rapidly rotate the mirror on its vertical or horizontal axis, being careful not to move the head, and if there is any existing error of refraction in the examined eye, we will notice that the bright illuminated point of the retina moves across the pupillary space, followed by what appears to be a dark shadow, but which is really a portion of the retina not illuminated. It is the movement of this bright area which will decide for us the error of refraction, or tell us if the refraction of the examined eye is normal. If we turn the mirror to the right on the vertical axis, and we notice that the illuminated area moves in the same direction, then the eye must be hyperopic, and the image we see is a virtual image of the illuminated part of the retina.

If with the same rotation of the mirror we find that this movement of the bright area is in the opposite direction, that is, as we turn the mirror to the right the illuminated area seems to pass to the left, then the examined eye must be myopic, and we see a real inverted image of the illuminated part of the retina.

If we notice that these two movements of the reflex are very rapid, uncertain, very bright, filling the entire pupillary space, the examined eye will be almost if not fully emmetropic, there will be no existing error of refraction. This being considered the normal eye, should not require glasses.

If astigmatism were present, there would be a difference in the movements of the retinal reflex. Suppose that we find in the vertical meridian the movements of the reflex are in the same direction as the mirror is rotated, then the refraction in that meridian is hyperopic; but if in the horizontal meridian, as the mirror is turned, we find that the retinal reflex moves in an opposite direction, this meridian must then be myopic, etc.

This method, he said, had come from France, had been largely adopted in England, less in this country, was regarded with disfavor in Germany. The author had found it reliable and easy of application, but agreed with others who had said it required accuracy and experience to show its greatest efficiency. He recited some cases in his own practice, and one described by Dr. Wiesner, his assistant. He had not time to enter upon the theory of retinoscopy, nor to give the details of correcting errors of refraction by glasses.

Retinoscopy not Practical for the General Practitioner.—DR. DAVID WEBSTER said the only thing he could at all criticise in the paper was the recommendation of retinoscopy for use by the general practitioner. It was difficult to learn in a way to be useful, even for

an oculist. Besides, not more than five per cent. of persons examined by him showed emmetropic, or supposed normal vision. Further, if there were symptoms apparently due to eye-strain, and the general practitioner found an error of refraction by this method, he would have to send the patient to an oculist anyway, for more exact examination and the selection of glasses, and this might as well be done in the first place.

Asthenopia in Normal Refraction.—Dr. O. D. Pomeroy had seen eye-strain and accompanying symptoms even in emmetropic eyes. One could not expect to escape these troubles, even though he had normal vision, when he used his eyes excessively in bookkeeping or literary pursuits. He spoke of a number of eye-symptoms due to errors of refraction, but said, if a patient had hypermetropia or insufficiency unaccompanied by symptoms, he would let him alone.

Regarding the method of determining errors of refraction described by the author, he thought it was quite impractical, for by it one only determined the presence of myopia, hyperopia, or astigmatism, not the degree, and other methods had finally to be resorted to. "Better take a good method and master it, and then we will be good for something as diagnosticians."

Ocular Headache.—Dr. J. A. Andrews read his views on the influence of eye-strain in causing certain symptoms, particularly nervous, and said this question was one very close to the interests of the ophthalmological surgeon. Certainly a majority of persons who sought his advice, especially in private practice, did so because of some error of refraction or condition of the muscular apparatus of the eye producing a complexity of symptoms. He did not think retinoscopy practical in the hands of the general physician.

Dr. Emil Gruening thought the method recommended by the author, especially without dilatation of the pupil, not sufficiently exact nor practical.

Dr. Lambert thought it sufficiently exact, and he had devised measures for making it more convenient for the specialist, but he could not recommend it for use by the general practitioner.

Dr. Bucklin expressed similar views, and said the most reliable information for the general practitioner was obtained by asking the patient what were his symptoms, and whether they were aggravated by use of the eyes. If they were so aggravated, send him to an oculist, who himself found it difficult enough to determine just the refraction and what glasses were best adapted to the case.

Dr. Holcombe related some experience going to prove the value of treatment directed to the ocular muscles in correcting certain symptoms relating to the eyes, etc., and Dr. Valk closed the discussion, upholding the statement that retinoscopy was the most practical method yet devised by which the general practitioner could determine the presence of errors of refraction. What further step should be taken could then be decided upon.

The Society adopted a resolution, endorsing the bill before the Legislature for the prevention of blindness and report of cases of purulent ophthalmia in infants by nurses and midwives.

Dr. Ralph Waldo read the report of the delegates to the recent meeting of the State Society.

An Incentive to Begetting many Children.—French Canadians are celebrated for their large families, and now we may expect to find them outdoing themselves in this respect as the state proposes to pay for children when presented in batches of a dozen. A bill has been passed by the Legislature of Quebec granting one hundred acres of land to every farmer who has twelve living children. Several applications for this premium have already been made, one of the first being by a M. Léon Phénises, who, although but thirty-eight years of age, is the happy father of twelve healthy children and the owner of a $5,000 farm.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, February 27, 1890.

Egbert H. Grandin, M.D., Chairman.

Ovarian and Intra ligamentous Cysts.—Dr. George M. Edebohls presented three specimens, the first being from a patient who for a year before she consulted him had noticed progressive enlargement of the abdomen, mostly limited to the right inguinal region. There was also pain and rather profuse menstruation. On examination he found the uterus crowded against the symphysis by a soft, semi-fluctuating tumor which occupied the upper two-thirds of the pelvic cavity and extended somewhat into the abdominal cavity. It was diagnosticated to be an intra-ligamentous cystoma. There was another tumor at the right of the uterus, four or five inches in diameter, very slightly fluctuating. It could be rolled about all over the abdomen, but gradually settled again in the right iliac region. It was supposed to be a cystoma of the right ovary. The operation verified the diagnosis with regard to both tumors, but the one last mentioned was found connected by a long pedicle with the left instead of the right ovary. Both were removed without first emptying their contents. The operation had been performed three weeks ago, and the patient had since done well.

Fibro-myoma of the Vagina.—The second specimen presented by Dr. Edebohls was of interest chiefly because of its rare situation. It was a fibro-myomata which had developed from the vagina. Subsequent to a miscarriage, three years before, the woman had noticed fulness at one of the labia, and two years before the operation the tumor projected between the labia. Dr. Ebebohls found its measurement to be an inch and three-quarters in the greatest diameter, and its pedicle springing from the posterior wall of the vagina, just above the entrance. The cervix and perinæum were badly lacerated (the woman had borne five children), and were repaired when the tumor was removed, six weeks ago. The pathologist reported that the tumor contained all the elements of the uterus, even to the utricular glands, which suggested the possibility of its having formerly been a uterine polypus, which became separated from the uterus and attached itself to the ruptured perinæum.

Excision of a Tenacious Hymen.—The third specimen consisted of a thick, tough hymen, which he removed from a young woman, lately married, who said her husband was unable to enter the vagina. Dr. Edebohls excised the hymen, which had been stretched and pushed up a distance like the inverted finger of a glove, and sewed together the mucous membrane of the vagina above and below, the line of incision by a continuous catgut suture. There was no further trouble.

Dr. A. F. Currier said he had excised the hymen in several cases, but had not thought it necessary to use a suture. He first stretched the orifice, and after the operation introduced a cotton plug.

The Chairman said, regarding the second specimen, that it must be very rare for a fibro-myoma to develop from the vaginal wall. The explanation suggested by Dr. Edebohls was a curious one.

Universal Handle for Uterine Electrodes.—Dr. A. H. Goelet presented a universal handle for uterine electrodes, both of the platinum and steel varieties. He also exhibited a platinum electrode, which he had made flat instead of round, in order to render it adaptable to the curve of the uterine canal, the round one of Apostoli being too stiff (and also costly) because of its weight.

The Treatment of Pelvic Hæmatocele and Hæmatoma.—Dr. A. H. Goelet then read a paper with this title, but limited his part of the discussion to the use of electricity. He thought all would admit that the usual treatment was most unsatisfactory, chiefly because of the slow progress toward recovery. By the electrical treatment he had been

able to shorten the period of convalescence and suffering of the patient.

By hæmatocele he meant an effusion of blood into the pelvic peritonæum, although it might become encysted; and by hæmatoma, an effusion into the cellular tissue outside the peritonæum.

Laparotomy was justifiable only when collapse was imminent from intra-abdominal hemorrhage. He had been quoted as operating for hæmatoma, but it was in a case in which he and an authority on pelvic tumors mistook it for one of cyst. He believed the patient would have recovered in a shorter time without an operation.

Four Indications for Treatment.—1. To check the hemorrhage. 2. To produce coagulation of the effused blood as quickly as possible, and thus prevent recurrence of the hemorrhage. 3. To relieve pain and inflammatory complications. 4. To effect absorption of the clot and prevent the formation of an abscess. He might add a fifth indication, namely, to shorten the confinement to bed as much as possible.

Difference between the two Poles.—In speaking of the electrical treatment it should be remembered that the two poles in their action on the living tissues were directly antagonistic. The positive relieved pain and congestion; the negative tended rather to produce these effects. The alkalies were attracted to the negative pole; the acids to the positive. The fluids attracted to the negative pole produced an influence somewhat like tincture of iodine; the acids going to the positive pole produced coagulation, the greatest effect being at the point of contact, but also extending some distance around. The positive pole produced absorption, but the negative pole was more effective in this direction.

When to Use the Positive Pole.—The positive pole should be employed at first, and rest in the horizontal position until all danger from hemorrhage had ceased. The positive pole promptly relieved congestion; this prevented further effusion, and also promoted absorption of the effused blood. It could be employed in two ways. The first was through the vagina, the current long continued, commencing with twenty or thirty milliampères, increasing gradually to one hundred. The negative pole was so placed as to include the mass directly between it and the positive pole. He used a rheostat. The application might be increased once or twice a day, according to the exigencies of the case, until the end was accomplished.

Galvano-puncture.—The second method consisted in positive vaginal galvano-puncture, the puncture being made by a very small needle insulated up to the tissues penetrated. A strong current—say fifty milliampères—could be used five or ten minutes. It might be repeated in from three to six days. In small hæmatoma often but one treatment was all that was necessary. He restricted this method of using galvanism to hæmatoma. He did not apply it to hæmatocele. For puncture the point should always be of platinum. The use of the positive pole also gave relief from pain and prevented inflammatory complications.

When to Use the Negative Pole.—To hasten absorption during convalescence it might become necessary to use the negative pole; but usually the case progressed rapidly enough under the positive pole, employed as already described, especially if galvano-puncture had been practised. It was to be borne in mind that the needle simply penetrated the capsule, and was not passed on into the clot. The rapid absorption which took place under the positive pole might be explained by the fact that the mass became negative. If the negative pole were used it should be only after the clot had become firm and all inflammatory action had subsided. It was also contra-indicated when any pain was present, and when pain followed its use. Negative galvano-puncture, however, should never be practised in these cases. Absorption took place in from one week to ten days.

Suppurating Hæmatoma.—If suppuration took place in a hæmatoma it should be evacuated and drained per vaginum. In suppurating hæmatocele laparotomy was indicated.

Laparotomy in Hæmatocele.—The discussion was participated in by Drs. Currier, Ralph Waldo, J. H. Fruitnight, J. H. Emerson, H. C. Coe, Elizabeth Cushier, and the Chairman, all of whom directed their remarks to the general treatment of pelvic hæmatoma and hæmatocele, professing to no experience with the electrical treatment. Dr. Cushier had drained successfully per vaginum in four cases, but most of those who expressed their views on this subject preferred laparotomy when urgent symptoms were present.

How Soon after Delivery does the Responsibility of the Accoucheur Cease.—Dr. H. C. Coe read the paper. It covered a larger ground than the title indicated. Many of the complaints for which women consulted gynecologists were due to too early dismissal of confinement cases by the physician, but more especially, as appeared from the paper, to want of proper management during the time the patient was under the physician's care. He was convinced that there were excellent general practitioners who still paid as little attention to whether there was a rupture of the perinæum after labor as did midwives. As to laceration of the cervix, he was satisfied that not one physician out of ten inquired after a labor regarding that point. The author thought in every case where there was laceration of the perinæum it should be repaired at once. The immediate operation for laceration of the cervix should not be done except in severe cases where there was danger from hemorrhage. But if the cervix were supposed to be injured, strict cleanliness and vaginal antisepsis should be kept up for days subsequently by the use of the douche and the introduction against the cervix of a suppository of iodoform. After closing the tear in the perinæum a pad of absorbent cotton or bichloride gauze should be applied, and the urine drawn every six hours.

If the uterus showed a tendency to remain large and to fall backward, it was his custom to introduce a pessary for two or three months, on the principle that "A stitch in time saves nine." If there were any leucorrhœa, back ache, or other symptoms, the patient should be kept under observation until the physician could feel assured that the pelvic organs had returned to a normal state. It was not uncommon, he thought, to mistake mild forms of septic infection, which might lead to abscess of the broad ligament, etc., for difficulties connected with lactation. He believed the majority of cases of pyosalpinx in married women had their origin in labor or abortion, and it was unnecessary in these patients, as a rule, to seek a cause in gonorrhœa.

Responsibility not Measured by Days nor Weeks.—It would thus be seen that the accoucheur's responsibility was not to be measured by days nor weeks. It ceased only when all puerperal lesions had been repaired and evil consequences averted. He thought the patient should be frankly informed of any lesions present, and of probable after troubles, that they might, if possible, be averted. Only in this way could we hope to escape the implacable resentment which women felt for the medical attendant should they subsequently have any illness which could be attributed to the confinement.

Primary Perineorrhaphy not always Successful.—Dr. Currier approved of the primary operation on the perinæum, but said it was not always successful, and if it was not for the kindliness of nature in cases of labor in which accidents had happened, there would be more women having an "implacable resentment" to their physicians.

Relaxed Tissues as a Cause of Backward Displacement.—He had seen more than one case in which backward displacement of the uterus could be attributed simply to weight and relaxed condition of the organ subsequent to labor. Physicians were too likely to forget that such cases were much benefited by general treatment.

Delays Cutting the Cord.—Dr. Wood had found much

better results since adopting the method of not cutting the cord until pulsation had ceased; of keeping the hand constantly on the uterus an hour after expulsion of the placenta, sometimes even two hours; of removing all clots from the vagina; of sewing up any tear in the perinæum.

Laceration of the Cervix Invariable.—With regard to laceration of the cervix, he believed it was present in some degree in every case of labor. He had had none in which it was absent. Vaginal injections were employed only when specially indicated. He believed they interfered with healing of the wounds. No person was allowed to touch the patient but himself for three days. She must not raise the shoulders from the bed for two or three days, as it would interfere with healing of lacerated surfaces. A little blood clotted in the cul-de-sac, which, if it was allowed to remain, supported the cervix and aided union of its surfaces.

The patient should retain the recumbent posture for three weeks, and if she got up the fourth week a pad should be inserted beneath the cervix. By thus keeping the uterus up, the laceration of the cervix, although it were extensive, would be likely to heal.

Use Plenty of Sutures.—Dr. Edebohls had learned from experience that the whole tear in the perinæum and vagina should be thoroughly closed by primary operation, beginning by inserting a suture at the vaginal end of the tear and proceeding outward toward the skin. Sometimes seven or eight sutures were necessary.

Mild Septicæmia.—Dr. Ralph Waldo thought the diagnosis of mild septicæmia was not readily made. At any rate many cases were overlooked, and indeed led to the development of pyosalpinx which might subsequently demand laparotomy. He approved of primary perineorrhaphy, but opposed primary trachelorrhaphy except for severe hemorrhage.

Dr. Fruitnight said that theoretically the responsibility of the accoucheur ceased only when the parturient organs had been restored to the condition which was present before pregnancy; practically, however, the physician found tradition prevented his continuing his visits so long.

When Puerperal Fever Prevailed in Bellevue Hospital some years ago, nine or ten patients dying of the disease every month, Dr. J. L. Perry was house-physician in one of the wards, Dr. Murray being his assistant, and not one of their patients died. They kept the hand on the uterus after expulsion of the placenta one or two hours, in one case all night, employed antiseptic precautions, saw the patients every two hours. The strict discipline suggested by Dr. Coe was proper, but could not be enforced in private practice.

It Depends on Payment of the Bill.—Dr. A. M. Jacobus had found that no matter what amount of care the physician gave his patients, his responsibility in the opinion of those who refused to pay their bills would not cease for the next three years. He did not think it advisable to keep the patient on her back fourteen days. She should sit up to urinate, and thus allow clots to escape from the vagina.

A Frank Confession not always Good for the Pocket-book.—Dr. Goelet always taught the need of sewing up any laceration of the perinæum, and once by request, aided a young physician to do so in three cases. The result was that the young man's patients and their friends left him subsequently, to employ midwives, in whose care they never had a rupture, or, at least, were not told of it.

In the Nursery and Child's Hospital Dr. Hance had found the physician's responsibility usually much shortened since they had adopted the most approved antiseptic management of women during confinement. In some instances they had not been able to repair the perinæum until two or four hours after delivery, yet union had then taken place satisfactorily. Like Dr. Edebohls, they made the repair thorough.

Objects to the Iodoform Suppository.—The Chairman said he must again protest against the use of the iodoform suppository. It was not antiseptic, and was especially objectionable in that its odor would obscure the fetor pertaining to septic endometritis should this arise. Regarding the advice given, keep the patient on her back three weeks, he had been taught to do that; but now believed, with Dr. Goodell, that it was advisable to lift her into the sitting posture two or three times a day after the third day, and thus insure drainage of the vagina.

Correspondence.

A SUGGESTION IN OPHTHALMOLOGICAL TERMINOLOGY.

To the Editor of the Medical Record.

Sir: The substitution of the terms "temporal" and "nasal" for "homonymous" and "crossed" in the definition of diplopia. While the use of the word "crossed" in the definition of one form of diplopia is sufficiently epigrammatic and clear to bear its meaning on its face, such is not the case with the term "homonymous." He who has not knowledge of the Greek adjective ὁμός, the same, must make use of some original form of mnemonics to fix this word in his mind. There is an artificial diplopia produced by the use of prisms, and there is a natural one caused by paralysis of one or more of the ocular muscles. If the image, say, of the right eye, stands on the right side, the term "homonymous" is ordinarily used. The term "temporal," used under these circumstances, would render the meaning obvious and clear, for the image of one eye is projected outward toward the temple of that side of the head. When the double vision is "crossed," *i.e.*, the right image is on the left side, and *vice versa*, the term "nasal," if used, will represent a proper antithesis to "temporal," and be equally obvious and clear as the term "crossed," for the image is projected toward the nose. The use of a purely Greek word as antithetic to an English one is an inconsistency, and possesses no merit. It seems to me that the substitution of the term "temporal" for "homonymous," and "nasal" for "crossed," in the definition of diplopia is reasonable. This substitution was suggested to me in the course of conversation by Dr. W. B. Davis, Captain, United States Army.

John Herbert Claiborne, M.D.

WHAT WAS TRIED TO REMEDY THE ABUSE OF MEDICAL CHARITY.

To the Editor of the Medical Record.

Sir: In a recent issue of your journal there is an editorial reference to the meeting of the profession held a few years ago, at the Academy, to discuss the advisability of co-operation with the "Charity Organization Society."

The writer was one of those who responded to the call or invitation of that society, and was present during the session, and was one that felt aggrieved—not at the society, for it was evident to those present that the action of the gentlemen composing it was taken in good faith; and the statistics presented, and the evidence adduced, proved conclusively the need and the advantages of such co-operation—but at the coterie of dispensary habitués and their friends, gathered together for the purpose, and who captured the meeting in neat style. It could hardly have been done with more skill by General Butler himself, and their success proved conclusively that they missed their vocation.

The meeting was hardly organized before the motion to refer to a committee, to be appointed by the Chair, consisting of representatives of the various dispensaries—and two of the most outrageous offenders—was made, and supported by a characteristic speech. It was seconded, of course, and carried almost unanimously. It appeared, therefore, that we had been invited there to witness the killing of the reform movement, and to grace

the triumph of our enemies, instead of deliberating on and devising measures to check them.

The apparent unanimity of the reported proceedings was doubtlessly due to the surprise occasioned by the audacity of the gentlemen. Such political methods are comparatively rare in medical meetings.

The writer did, however, attempt to stay the flood, by proposing an amendment to what you are pleased to term "the American method" of appointing a committee. The amendment embodying a representation of the other side.

It was stated, in explanation of the proposed amendment, that, as the original motion gave representation to the hospitals and dispensaries that were chiefly responsible for the abuses, the tramps and dead-beats—the chief beneficiaries—ought also to be represented on the committee.

The motion to refer, as above stated, was carried, the committee appointed, and then the meeting adjourned.

The committee have performed their duty nobly, successfully. They chloroformed the movement into its peaceful, everlasting sleep; and, no doubt, if anyone should raise a voice of censure, they would plead "that they used all proper precautions; that they had all the known restoratives at hand; that every effort was made at resuscitation; but that it 'perished by the will O' God, or, heart-failure.'" MEDICUS.

NEW YORK, February 22, 1890.

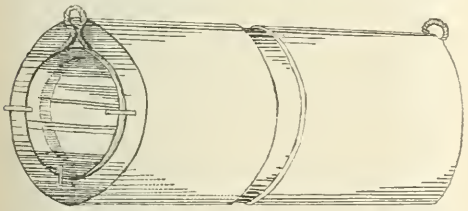
New Instruments.

A WORKING MODEL OF THE EYE.

BY R. J. PHILLIPS, M.D.,

CHIEF OF CLINIC, EYE DEPARTMENT OF PHILADELPHIA POLYCLINIC AND COLLEGE FOR GRADUATES IN MEDICINE.

A SMALL camera which I have recently constructed as a model of the eye has proven of so much use in illustrating to students the elementary facts regarding the refraction of the eye, the various forms of ametropia, and the methods of determining the degree of the latter, that I have thought a description of it might be of value. In the perfection of the geometrical and mathematical explanation of the refraction of the eye contained in the



modern text-books, the student seems in danger of losing sight of the fact that we have, in the camera obscura, a working model of the eye which can teach the facts of refraction better than any other method can hope to do. With the facts plainly before him, the student naturally seeks their explanation. Many working models of the eye have been made; but they are all so costly as to be far beyond the reach of the majority of students; in that which I describe I have utilized the lenses of the test-case, thereby reducing the cost of the instrument to a mere trifle. It consists of a cylinder of card-board, three inches long and about two inches in diameter, over which slide two other cylinders, each one and a half inch long. One end of each of the latter cylinders is closed by a stout wooden diaphragm; of which one has a hole one and an eighth inch, the other a hole of three-fourths of an inch in diameter, in its centre. In front of these holes are hooks for holding lenses. The interior of the instrument is well blackened. We have thus a cylindrical box, whose length may be varied from three inches to nearly six inches. If a +19 D. or + 10 D. lens be placed before one of the openings in the box, the ground-glass disk usually found in the test-case before the other, and the board cylinders be shifted until a clear image of distant objects is formed on the ground glass, we have a model of the eye in a condition of emmetropia. Either end of the model may be used as the front; giving two sizes of the opening which represents the pupil. If we slightly lengthen the box, myopia with its blurred image is shown. Placing a concave glass before the lens clears the image; so does bringing the model near the object. A definite amount of myopia may be produced in the model by substituting a stronger lens for that used in representing emmetropia. Hypermetropia can likewise be shown in two ways. Astigmatism is, of course, represented by placing a spherical and a cylindrical lens at one of the openings. In practising the shadow-test, the metal disk of the test-case is substituted for the ground glass at the back of the model. In the direct method a disk of card-board containing fine print, a series of lines, or a drawing of the fundus may be so placed. It is, perhaps, in illustrating the shadow-test that the model is most useful; the action of light in the pupil being shown with great distinctness. A single example will serve to show the application of this test. Placing in the front of the model a + 10 D. lens, we shift the board cylinders until we have a clear image of distant objects on the ground glass (emmetropia). Substituting for the + 10 D. lens a + 9 D. with + 2 D. cyl. axis 180°, we have mixed astigmatism, with the meridian of greatest refraction at ninety degrees. We replace the ground-glass disk by the metal disk, and reflect light into the model with the plane mirror. At a short distance from the model this light appears as a perpendicular band, moving rapidly and easily with the mirror from side to side; slowly and with difficulty in the direction of its length. At the distance of one metre (the point of reversal for the myopic meridian) the band of light can still be moved from side to side but not in the direction of its length. Beyond that distance the light appears to move against the mirror when moved up and down, but remains with the mirror for all distances when moved from side to side. The advantage to the beginner in using the model rather than the eye itself lies in its better illumination, and the consequent distinctness of the movements; and in the fact that the student is able to produce any form of ametropia at will. The model may be obtained from Mr. H. C. Boden, the optician, of Thirteenth and Walnut Streets, either without lenses, or, for use in the common schools, in which its value will be readily seen, fitted with a suitable lens and screen.

18 NORTH THIRTY-EIGHTH STREET, PHILADELPHIA.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 23 to March 1, 1890.

By direction of the Secretary of War a board of medical officers, to consist of Major Charles Smart, Surgeon; Captain Valery Havard, Assistant Surgeon; Captain Louis Brechemin, Assistant Surgeon, is appointed to meet at Fort Leavenworth, Kan., on March 15, 1890, or as soon thereafter as practicable, for the purpose of preparing a manual of drill and instruction for the members of the Hospital Corps, and to examine the equipment of the corps with a view to its improvement. Par. 9, S. O. 47, A. G. O., Washington, D. C., February 26, 1890.

LORING, LEONARD Y., Major and Surgeon, having been found incapacitated for active service by an army retiring board, by direction of the Secretary of War, the extension of leave of absence on surgeon's certificate of disability granted him in S. O. 34, February 10, 1890, from this office, is still further extended until further orders on account of disability. Par. 3, S. O. 46, A. G. O., Washington, D. C., February 25, 1890.

Smith, Joseph R., Lieutenant-Colonel and Surgeon. Promoted to be Surgeon with rank of Colonel, February 9, 1890.

Bache, Dallas, Major and Surgeon. Promoted to be Surgeon with rank of Lieutenant-Colonel, February 9, 1890.

Harvey, Philip F., Captain and Assistant Surgeon. Promoted to be Surgeon with rank of Major, February 9, 1890.

Patzki, J. H., Major and Surgeon. The leave of absence for seven days granted in Orders 25, Fort Huachuca, Ariz., February 12, 1890, to take effect the 14th instant, is extended twenty-three days. Par. 1, S. O. 18, Department of Arizona, February 17, 1890.

Kneedler, William L., Captain and Assistant Surgeon. Upon being relieved from duty by Captain Robinson, will report at Jackson Barracks, La., for duty at that station, relieving First Lieutenant Freeman V. Walker, Assistant Surgeon; upon being relieved Assistant Surgeon Walker will report at Fort D. A. Russell, Wyo., for duty at that station. Par. 4, S. O. 43, A. G. O., February 20, 1890.

Robinson, Samuel Q., Captain and Assistant Surgeon, now on duty at Fort Hamilton, N. Y., is relieved from duty in the Division of the Atlantic, and will report in person to the Superintendent United States Military Academy, West Point, N. Y., for temporary duty at the Academy, to relieve Captain William L. Kneedler, Assistant Surgeon. Par. 4, S. O. 43, A. G. O., February 20, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending March 1, 1890.

Rush, C. W., Passed Assistant Surgeon. Ordered to the Navy Yard, New York.

Auzal, E. W., Passed Assistant Surgeon. Ordered to the Galena.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 1, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	17	6
Scarlet fever	96	8
Cerebro-spinal meningitis	4	2
Measles	121	10
Diphtheria	109	25
Small-pox	0	0
Varicella	6	0
Cholera	0	0

"Clinica" is the name of a new monthly medical journal in the Roumanian language, published at Bucharest. The editor is Professor Assaky.

Treatment of Dandruff.—A solution of chloral hydrate, five grains to the ounce, is recommended for the cure of dandruff. It is to be applied night and morning in small quantity and allowed to dry on the hair.

Local Medication of the Drum-Membrane.—One of the greatest difficulties with which the oral surgeon has to contend is to get patients to make applications properly in cases of otorrhœa. Syringing is seldom done effectually, while the attempt to introduce powders by the process of blowing is usually a farce, for the powder either fills the mouth and nose of the amateur operator or is deposited for the most part in the recesses of the concha. Dr. A. M. Shield, of the Charing Cross Hospital, London, describes, in *The Practitioner* for November, 1889, a method of making local applications in these cases which can hardly fail of being more effectual than most of those now in vogue. It consists of the introduction of little pellets, the size of swan-shot, made of cocoa-butter, with which is incorporated whatever medicament it is desired to employ. The method of application is thus described by Dr. Shield: "At night-time, the patient lying on the opposite side, one of the pellets is quickly taken up and dropped into the meatus. The tragus being drawn backward and shaken, the little ball soon enters the canal. A plug of wool is then introduced, and the patient sleeps in the same position. The parts are thus for several hours impregnated with the agents introduced. The basis is soft, and so readily melts in the fingers that the pellets must be kept in a cool place, and rapidly dropped into the ear. Should they stick on the walls of the canal, the point of a fine dry brush can be used to push them onward, and this instrument can be intrusted to unskilled hands." The chief objection to this method would seem to be the danger of clogging up the meatus by the oily matter and the dirt and epithelial débris which it will collect. This necessitates special attention to keeping the parts clean; but cleanliness is necessary in any case, and the method proposed by the author certainly secures an effectual application of the medicament employed to the perforated membrana tympani.

How some try to Pass the Naval Medical Board.—Medical Director Delavan Bloodgood, United States Navy, in responding to the toast of the Medical Corps of the Navy at the banquet of the Medical Society of the State of New York, among many other good things said: "A wrong impression has gotten abroad that great and increasing gaps exist in our ranks. There are a moderate number of vacancies in the grade of assistant surgeon, but more than enough available candidates for the places are booked and awaiting examination. Now I desire to explain a bit concerning our required examination, and the bruit that it is too 'exacting.' The origin of the complaint cannot better be demonstrated than by some quotations from the records of the Examining Board. Bear in mind, gentlemen, please, that all these candidates, whose essays I will cite, hold the degree of Doctor of Medicine, and many of them the baccalaureate also, and several were practitioners of from one to three years' standing. Thus one writes in making his application: 'I am a graduate of the Medical College of ——, and I think I can fill the bill. Is there any vacancies now? Is the examination as rigid as reported? I am a lover of surgery and hope I will fill the bill.' One aspirant was asked in the oral examination, 'Who was Hannibal?' 'Hannibal was a Hun and a Vandal,' he replied; next, 'How did Hannibal get into Spain?' and answered: 'He must have crossed around through Asia.' Question to another: 'Who succeeded Julius Cæsar?' 'Pontius Pilate,' was his prompt reply. Another answered that 'the Suez Canal connects the Atlantic and Pacific Oceans at Panama.' One stated that 'Galen, who was born in the eighteenth century, discovered the circulation of the blood;' another mentioned that 'Harvey was a celebrated electrician.' One doctor had never heard of Jenner, but another knew all about him, and said that Jenner lived before Christ and practised vaccination in India, where he was born. One, when directed to write a prescription in Latin, said, 'We don't write Latin prescriptions out in —— County.' Another sent this note from his writing-table to the president of the Board: 'Sir, you ask me in your question, "What is the mediastinum?" As I never heard of it I would like to have your advice about withdrawing from the examination.' Another wrote in answer that 'phimosis is a disease coming on in old age.' One, who had been in practice for two years in a large city, closed his remarkably original treatise on diarrhœa thus: 'But the best treatment of all

to be given is them old opium pills found in shops and other places about town.' And here is another doctor's exhaustive thesis on opium : 'Opium is grown extensively, that is the tree from which the gum opium is obtained, in the West Indies. The tree grows a small papula, which is of a gummy consistence; this is then gathered and the inside of the papula is then formed upon cakes or lumps, in which way it is transported to market. It is also grown in some of those foreign countries like China, which produces a very superior article. I find that opium is not borne as well by the stomic as codei. This active salt, which is very soluble in aqua, gives us a form of giving the effects of narcotism in very minute doses.' These candidates, and very many others like them, and but only they, denounce our examinations as too exacting; and this is the way that one of them, not unlike the worm, turned and addressed the president of the Board : 'Sir, in your conversation with me you made a simile, the fore part of which I have forgotten because I was so forcibly struck with the latter part, which was that something was like a man having won a girl's love he then cared nothing for it. Owing to your at the time superior position I said nothing. As I said nothing you may have thought that I agreed with you. The difference in our position was removed by your rejecting me as a candidate. I now say that I do not agree with the sentiment. On the contrary, I believe that if there is one thing more than another which relieves life of its barrenness and renders it worth living it is the love of a true woman, and the longer a man has won that love, and the more he has fathomed its depth, the more he will value it, if he be a man. And further allow me to say that in my opinion the most despicable individual on the face of God's earth is he who under the guise of a pleasing exterior seeks to win a pure girl's love, simply that he may have the diabolical pleasure of trampling upon it. I could not leave you under the impression that I had such an opinion of my fellow-men, in general, as agreement with you would signify. Should even twenty years' service in the Navy force upon me such an opinion, I thank you for rejecting me; contact with my fellow-men in private life will, I am sure, show me a better side of human nature than that. I have had my say. Yours, M. D.'"

Pseudo-urinary Affections.—The Paris correspondent of the *British Medical Journal* states that Dr. Bazy publishes some interesting particulars concerning a class of affections M. Guyon terms "faux urinaires" (pseudo-urinary troubles). Sometimes the symptoms clearly indicate uterine, rectal, or anal affections. Most often, however, they exhibit characteristics which differentiate them from this class of illnesses, though they have one common point of resemblance, the nervous system is disturbed, and general paralysis or hysteria, etc., may ensue. Bazy has examined several cases without detecting any lesion; he has collected notes on seven cases, which he classes as glycosuria, not diabetes. Except in one instance, there were no symptoms indicating that the urine should be tested for sugar; in this knee-jerk was absent. M. Bazy affirms that this symptom occurs even in slight glycosuria. Pseudo-glycosuria resembles glycosuria by the existent nervous troubles common to both forms. M. Bazy says pseudo-urinary conditions are easily diagnosed. The general condition is frequently good, and glycosuria generally disappears when a proper diet is strictly followed. Sugar is often only detected after meals, and the proportion in twenty-four hours is not important.

Rupture of the Gall-bladder.—At a late meeting of the Medical Society of London, Mr. Haslam read the notes of the case of a man, aged sixty-three, who was admitted into the Birmingham General Hospital on August 5, 1889, with strangulated inguinal hernia on the right side. This was relieved by operation, and he left the hospital on August 27th, feeling perfectly well. Within twenty-four hours he was again admitted, with symptoms of peritonitis, and an inguinal hernia on the left side was down and constricted, but reducible by careful taxis. As the symptoms increased in severity the abdomen was opened in the middle line, and the peritoneum found acutely inflamed and containing a little bile-stained fluid. The distention of the intestines was so great, and the man's condition so bad, that no attempt could be made to find the rent in the gall-bladder. Death occurred in eight hours. At the necropsy the gall-bladder was found to be extremely thin at its upper aspect over a space as large as a sixpence, and in the centre of this there was a small perforation. The parts about the transverse colon and stomach were very adherent, and the omentum reached into the left hernial sac. The cause of the rupture of the gall-bladder was probably the dragging due to the tension put upon the great omentum by the descent of the left hernia, or else the vomiting may have caused it. There was considerable difficulty in getting a history, but, so far as could be made out, the descent of the hernia preceded the peritoneal symptoms by a short time only. Mr. Haslam said that a probe had been passed through the ducts, which were quite free from obstruction. A piece of omentum was found lying free in the sac on the left side, and some coils of intestine just above it. There was no lesion of the intestine. He thought the dragging of the omentum across the stomach might have given a jerk sufficient to cause a laceration of the weakened wall.—*The British Medical Journal.*

An Obstetrical Experience.—The late Dr. Ellwood Wilson, of Philadelphia, is said to have personally delivered more than fourteen thousand women, nine deliveries having been accomplished on one occasion within twenty-four hours. In addition to this he saw about twenty thousand other obstetrical cases in consultation with his colleagues.

Mercurial Flannel.—Dr. Carles gives a detailed account of the method of preparing mercurial flannel, an article which appears to be coming into use in France. Its introduction is due to Professor Merget, of Bordeaux, who, in his recent thesis for the degree of Doctor of Medicine, shows that when frictions are made with mercurial ointment the mercury is not absorbed by the healthy skin, and that the metal acts only by the vapors which it spreads, and which are introduced into the system by means of the respiratory passages. The inconveniences attending the use of mercurial applications are well known; they are sometimes difficult to apply, and occasionally they cause cutaneous eruptions and salivation. Professor Merget has proposed to replace them by applications of thick tissues, upon which is fixed an adherent deposit of mercury reduced chemically to an impalpable powder, and placed in conditions most suitable for it to become slowly vaporized. Flannel is the material used for this purpose. It is first treated with a solution of sodium carbonate in order to free it from grease, and thus prepared it is dipped into a saturated solution of mercurous nitrate and afterward into liquor ammoniæ; this solution precipitates the mercury in the tissues of the flannel as mercurous ammonium. To make use of the mercurial flannel it is sufficient to place a square of ten inches on one side near the respiratory passages. Although the system is thus in direct contact with the mercurial vapors, it is not saturated by them, for they are rapidly eliminated by the renal and intestinal excretions, and thus an equilibrium is maintained. Experience has shown that respiring these vapors every night and leaving them off during the day, sick people and those in good health support them without the least inconvenience during several months. It is necessary to observe that if the mercurial dust from the flannel be inhaled with the vapors, salivation is rapidly produced. The piece of flannel, therefore, must be inclosed in a bag of some light tissue, so as to prevent the dusting out of the mercurial powder. The flannel thus protected is placed under the patient's head if he sleeps on his side, or

upon his chest if he lies upon his back. This mercurial flannel will give sensible vapors of mercury which can be recognized by tests for years. It weakens, however, sensibly every day when in contact with the hot body. It is therefore necessary to renew it about every three weeks. It can also be used as an application to the skin in cutaneous affections due to parasites. For this purpose it is applied in the form of a glove, a sleeve, or bandage.—*The British Medical Journal.*

The Prophylaxis of Phthisis.—At a recent meeting of the Académie de Médecine M. Villemin read a report on the prophylaxis of phthisis. The author said that of all the maladies phthisis, or, more strictly speaking, tuberculosis, in all its forms made the most victims. In large towns it frequently caused a fourth of the deaths. It was, moreover, essentially infectious, and the infection was due to a microbe *sui generis*, which, independently of direct transmission, penetrated into the organism by the lungs, the digestive canal by the air and food, the skin and mucous membranes by scratches, wounds, etc. The most frequent and most redoubtable source of contagion resides in the expectoration of phthisical patients, and then more especially when it is dry and reduced, so to speak, to powder, which change promptly takes place when, as among the lower class, the floor, walls, and bedclothes are covered with it. Later, when the floor is swept this dust rises and enters the lungs, deposits itself on everything, and constitutes thereby a permanent danger to those who sojourn in this tainted atmosphere. The dejections of patients contained also the contagious principle. From the foregoing it resulted that very particular precautions should be taken in the treatment of phthisical patients. Spittoons should be invariably used, and every day the contents should be emptied into the fire, and then rinsed with boiling water. All linen soiled should not be left to dry, but be plunged at once into boiling water. Sleeping with the patient to be strictly forbidden, and after the decease the room should be thoroughly disinfected. M. Villemin recognized that the parasite of the malady can also be introduced by the food, milk, meat, and the blood of certain animals (cows, rabbits, fowl). The milk should be the object of special care on the part of mothers and nurses (two thousand children die annually in Paris under two years from tuberculosis); it should be always boiled; the same need not be said of goats' or asses' milk, which is infinitely less dangerous. The meat should be rigorously inspected by the officers provided by the law. The habit of drinking fresh-drawn blood at the slaughter-houses (a habit much indulged in by the French for anæmia) should be strongly condemned. Discussion of this important paper was, at its conclusion, deferred till next week.—*Medical Press.*

Systemic Infection by Oidium Albicans.—MM. G. Roux and Linossier, who have been making a thorough morphological and biological examination of the oidium albicans, reported to the Société des Sciences Médicales of Lyons during October the results they had obtained with regard to the occurrence of systemic infection (*The British Medical Journal*). They used artificial cultivations grown on carrots, the fungus under these conditions growing only in the torular form. Two rabbits were inoculated by injection into the auricular vein. One animal remained perfectly well until the fifteenth day, when it suddenly became paraplegic and rapidly died. The other, which received a smaller quantity of the culture, was more rapidly affected; on the day after the inoculation it was dull, passed but little urine, and the head and ears were inclined to the left; after the second day no urine was passed; and on the fourth day the animal lay on its left side, owing, it was thought, to giddiness. In both animals the cortical substance of the kidneys and the muscular substance of the heart contained numerous small white nodules like large miliary tubercules, and consisting of tangled masses of the filaments which, under certain conditions are known to develop from the torular form of oidium albicans. In neither case were any lesions of the central nervous system or of the labyrinthine canals discovered, but MM. Roux and Linossier point out the resemblance of the symptoms in the second rabbit to those observed by Lichtheim after injection of *aspergillus*. These observations extend and confirm those of Klemperer, and lend support to the view, based upon a few scattered clinical records, that the oïdium, which is usually strictly limited to the epithelium, occasionally enters the circulation, and may give rise to systemic infection and serious visceral lesions—even multiple cerebral abscess (Zenker, Robbert).

The Babies' Hospital.—The first annual report of the Babies' Hospital, covering the period from June 16, 1888, to December 1, 1889, has been issued, and makes a very creditable showing. The number of patients treated during that time was 214, the total of hospital attendance amounting to 4,393 days. It might at first sight seem unnatural that a mother would trust her young infant to the care of strangers, but Dr. Holt states in his report that an investigation of 91 consecutive cases showed the following imperative reasons: In 23 cases the father was out of work; in 20 cases the father was dead; in 5 cases sick in a hospital; in 1 case he was in prison in Sing Sing, sentenced for sixteen years; making a total of 49 cases in which the father was incapacitated from supporting the child. In 15 casesthe mother had been completely deserted by the father. In 2 cases the mother was insane; in 6, dead: and in 6, sick and in a hospital.

Old Ale.—Some beer was recently discovered, walled up in the cellars of a brewery at Burton-on-Trent, which had been brewed in the year 1798. It was found to be in good condition, resembling sherry more than it did a malt liquor.

Help for Influenza Sufferers.—The Paris Municipal Council has voted the appropriation of $8,000 for the relief of the families of those who have died, or been long ill from the effects of *la grippe*. The cable reports that the Pope has ordered the bishops of the countries which have been visited by the epidemic to excuse from the observance of the Lenten fast all those who have suffered from the influenza in an aggravated form, and who are still in a weakened state as a result thereof.

Pork and Consumption.—The President of the Ohio State Sanitary Association, in a recent paper, inveighed against the use of pork as an article of diet, holding that it was probably the direct cause of pulmonary phthisis. The editor of the *Medical Advance* seems to assent to this view, and says that he has never seen a case of tuberculosis in an orthodox Jew. Investigation has shown that Polish Jews are not exempt from pulmonary phthisis, and it is by no means uncommon to see in the children of Polish Jews the unmistakable evidences of tuberculous disease of the bones or joints.

What can a Vegetarian Eat?—In a letter to the *Medical Press* the Secretary of the Vegetarian Society says that there is more or less confusion in the minds of many people as to what constitutes the dietary of a vegetarian. It does not consist in an exclusively vegetable diet, for the vegetarian may eat, at his option, all animal products that have not possessed animal life, *e.g.*, milk, butter, cheese, eggs, honey, and the like.

The Eighth Congress of Russian Naturalists and Physicians was held in St. Petersburg in January, the opening session being on the ninth of that month (new style). The members of the Congress were welcomed by Professor A. Beketoff, on behalf of the Committee on Organization and of the citizens of St. Petersburg. Professor Mendeleyeff was elected President of the Congress, but yielded on account of ill health to Professor Beketoff. Professor Dokutchayeff was re-elected Secretary.

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THE EVOLUTION OF THE LOCAL VENEREAL DISEASES.[1]

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CHICAGO, ILL.

It was invariably tanght until quite recently that the viruses of chancroid and gonorrhœa were specific entities which were always and invariably the same, their inoculation being followed under all circumstances by similar and typical results. Indeed, I myself accepted this view so confidently that it is with some hesitancy that I will endeavor to present views that are diametrically opposed to those which I formerly believed to be correct. When Drs. Taylor and Bumstead, in their excellent work upon the venereal diseases, advocated the doctrine that the chancroidal virus was not a specific entity, and that chancroidal ulcerations differed in degree only, rather than kind, from ulcers of a simple character, there were very few, indeed, who did not antagonize their views. It is only within a very short time that I have been convinced, from observation and experience, that chancroid and gonorrhœa are diseases which may arise *de novo*, and which, in the true sense of the term, are not specific. It is only by the acceptance of this theory that it is possible to understand something of the origin of chancroid and gonorrhœa, and which we certainly cannot do under the old and generally accepted doctrine of specificity.

While we may not be able to positively demonstrate the origin of the poisons of all infectious diseases, it is difficult to comprehend that a "specific" poison has always existed in any case, and it is certainly a great step in the advancement of medical science when we become able to trace the poison of any particular specific disease to its source. We have not been able to do this with many diseases, for it is fully as difficult to understand the circumstances under which certain morbid entities affecting the human body sprang into existence as it is to comprehend the precise conditions under which vitality itself first made its appearance in matter hitherto inert. A few of the morbid conditions affecting animal life have fortunately been traced to their origin, and, through the germ theory, we have at last begun to see a little light in regard to the origin of infectious diseases. Even at the present day, however, very few scientists are looking in the proper direction for the origin of disease, for if we admit that the germs of disease are living entities, why is it not logical for us to bring to bear upon them the same laws of evolutionary progression, differentiation, and development that we now apply to all other living creatures?

Disease is incident to the life of every animal, and as we study the evolution of the animal, so should we study the evolution of its diseases. Every phase of animal development and progression is subject to adverse elements of various kinds; thus each animal is relentlessly pursued by foes of a higher or lower evolutionary development. Man, with his superior power, born of knowledge, has been able to contend successfully with all of those elements which are inimical to his welfare, with the exception of those apparently insignificant little organisms—the germs of disease. As man himself has become differentiated through varying circumstances of environment, so have his foes become differentiated; hence he has become more susceptible to the inroads of certain forms of disease-germs, but less susceptible to others; certain varieties of germs have become extinct, while new forms have been developed; others, again, have become so modified as to bear almost no resemblance to the parent stock. By pursuing this line of study we may eventually find that many diseases which are now apparently quite dissimilar, have become so by the differentiation of the germs upon which they depend, and perhaps may discover the circumstances which have brought about such differentiation.

In applying this theory to chancroid, I first desire to call your attention to a few analogical arguments that are certainly striking. We will take as our point of departure diseases of a known or alleged specific nature, and see if we cannot find elements in two forms of the same disease which are more dissimilar than are simple genital ulcers and chancroid In small-pox we note several degrees of severity, from a varioloid, in which there perhaps exists but a single pustule, to the variola hæmorrhagica, or maligna, which is so fatal to life. The resemblance between these two extremes is very slight, yet they are the same disease. Or, to go still farther, note the difference between small-pox and vaccinia. Not much resemblance between the two you will admit, yet the poison of the latter is a derivative of the former, and by its action the human system is rendered insusceptible to the attacks of its more vigorous and noxious ancestor.

In scarlatina we have all grades of severity, from the walking form, in which one would hardly know that the child is ailing, to the scarlatina anginosa, or maligna, in which the life of the little victim is so rapidly destroyed. A singular fact is that in the severe forms of scarlet fever the angina assumes characteristics so severe, and of so peculiar an appearance, that the doctor is compelled to say, "This child also has diphtheria." Do you believe that the system of the child could be a field for strife between two infections constitutional diseases of so pronounced a type? I do not; but I am convinced that these cases are an illustration of the manner in which certain diseases, supposed to be separate and distinct, are co-related; and, furthermore, of the possibility of their development *de novo*.

Typhoid and typhus fevers have numerous degrees of severity, the extremes of which are strikingly dissimilar, although the *materies morbi* is invariably the same. We know, too, that typhoid and typhus fevers may develop *de novo*, under favorable circumstances of environment.[1]

Malarial fevers vary in severity from a slight ague shake followed by fever to the pernicious type which speedily destroys life. Clinically, malarial and typhoid fevers are frequently confused.[2]

Septic infection in surgical diseases may result in one of several degrees of severity of blood-poisoning, from the slight febrile disturbance, which was formerly termed "traumatic fever," to the overpowering and speedily fatal septæmia, which is so nearly identical to snake-bite in its effects upon the blood. Interposed between the two we have acute and chronic pyæmia. These phases of disease differ widely, yet they are one and the same, and due to the same cause.[3] Erysipelas is a disease which may vary

[1] Read at the meeting of the McDowell Medical Society, Henderson, Ky., November 11, 1889.

[1] This was strikingly illustrated by the epidemic of typhus fever which occurred in New York City in 1880–81.

[2] When absorbed by the lungs hospital miasm has been known to produce effects closely resembling malarial poisoning, and curable by quinine.

[3] With due deference to the recently published papers of Dr. Senn upon pyæmia, in which, if I interpret him correctly, an opposite view is expressed.

in type from the slight form of inflammation which is hardly more than an erythema to such a severe form as that which sometimes affects the scrotum, and not only causes sloughing but often a fatal result. Can we detect the slightest resemblance between the two? I think not; yet they are the same disease. Inoculate your finger with blood drawn from a patient with erysipelas of the face, and you may escape erysipelas entirely; if you do not it is apt to occur in a mild form. If, on the other hand, you inoculate yourself with the secretions from a sloughing scrotum, and you do not die of septæmia, the least you can expect is phlegmonous erysipelas of a severe and dangerous type.

I would also call to your attention the vast differences which exist between the different forms of puerperal disease; thus, we meet with cases of peritonitis, cellulitis, phlebitis, and acute fatal septæmia, all due to the varying conditions and effects of the same *materies morbi*.

Further illustrations are, perhaps, unnecessary, but I must not omit the most important analogy of all, viz., diphtheria: Recent observations of a clinical character have shown us that the diphtheritic virus, germ, influence, or whatever you may choose to term it, is capable of producing many different phases of disease of the naso-pharynx, varying from a slight and, apparently, simple sore throat with little or no constitutional symptoms (catarrhal diphtheria), to an exudative malignant affection capable of rapidly destroying life, and invariably producing the most profound constitutional disturbance. We know that epidemics of simple sore throat are closely associated with epidemic diphtheria. With the coming and going of an epidemic of diphtheria especially, as well as during its maximum dissemination throughout a community, we observe many cases which, while they do not present the typical characters of diphtheria and the diphtheritic micrococcus cannot be found in the pharyngeal secretions,[1] are nevertheless due to the same influences as diphtheria proper. When diphtheria exists in a family of several persons, it is often observed that apparently simple sore throat will appear in some members of the family while others are affected by genuine diphtheria, and that the simple cases often become transformed into the more malignant type. Physicians in attendance upon cases of diphtheria are often affected by sore throat of greater or less severity; this being my own experience whenever I attend cases of this character for any length of time. A defective drain has been known to affect different members of the same family with morbid conditions of the throat, varying from trifling soreness to malignant diphtheria, and also with varying types of essential fever.[2]

I have mentioned these many facts, which are apparently so foreign to the subject of chancroid and gonorrhœa, to demonstrate the varying results which may be produced by the evolution of the same poison.

Now, what is the reason that these so-called specific poisons manifest themselves so differently under apparently identical circumstances? Simply a varying virulency of the poison upon the one hand, and varying susceptibility upon the other, these variations being comprehensible to me only upon the hypothesis of evolutionary changes in the germ as well as in its field of action, *i.e.*, the human system. Let us consider this hypothesis, and see if the variation of the phenomena of disease is not dependent upon a variation in what has heretofore been considered an unvarying entity—a specific germ—and if even the noxious or poisonous property of the germ may not be an ingraft upon it, or at least a matter of development. Let us take as our first point of departure those innocent germs, cocci, or, if you please, minute organized particles which everywhere exist in the atmosphere. These germs multiply by their own peculiar methods of procreation, and such multiplication is favored or opposed, as the case may be, according to their environment. Filth, heat, and moisture, and protection from air and light, favor the development of many such organisms. It is obvious that successive crops of germs are possessed of properties which diverge more or less from those of the parent stock. This is a universal law that applies to all living organisms. The newly acquired properties are modified or varied according to varying circumstances of environment. Whether it is the germs proper, their secretions or excretions, if such there be, or new and complex compounds produced by their action upon putrescible matter,[1] that produce their peculiar effects upon organisms more highly differentiated than themselves, it would be difficult to determine, but it is at least conceivable that, sooner or later in the process of evolution, germs are developed which are possessed of properties by virtue of which they are capable of producing definite effects upon the human system. Thus we have, by evolution, the spontaneous generation of so-called specific poisons. Now, do not understand me to say that the germs themselves are spontaneously developed, for while such an event is perhaps possible, it is as yet disputed by the best scientific authorities. What I do claim is, that the poison of disease may be developed by the evolution of, and acquirement of new and toxic properties, by germs which were primarily innocuous.

Having arrived at a stage of development when it is capable of producing definite morbid effects upon the system, we might suppose that this germ would cause invariably similar effects upon the human economy. But the law of evolution still follows the germ of disease in its tour of mischief, and as I have attempted to show you from a clinical standpoint, modifies the resulting phases of disease most markedly, independently of the special properties of the individual germ.

The conditions modifying the results of germ infection are, as nearly as I can understand them, as follows:

1st. The degree of virulency and vitality of the germ at the time it enters the tissues or blood of a human being.

2d. The inherent vitality of the individual, or his resisting power at the time of infection.

3d. Individual susceptibility to the particular disease represented by the germ, *i.e.*, idiosyncrasy.

4th. The condition of the eliminative apparatus of the person affected.

5th. If the disease germ has a special predilection for any particular tissue the result will be modified by the condition of that tissue at the time of its infection, *e.g.*, the typhoid bacillus and the comma bacillus of cholera Asiatica most readily affect those who have morbid conditions of the alimentary canal. Diphtheria is most apt to attack persons with acute or chronic naso-pharyngeal disease.

6th. And one of the most important of all, the number of germs and the length of time during which the patient is exposed to their influence.[2]

Although not usually attributed to evolutionary laws, some of these ideas in relation to the development of infectious diseases are already pervading the profession to a slight extent. Probably the nearest approach to a thorough exposition of the subject is an essay by Dr. De Correquer Griffith, of London, entitled the "Unity of Poison."[3] In this article the learned author has shown

[1] Some of the more recent investigations tend to show that there are several forms of micro-organisms found in diphtheria, none of which are characteristic, and all of which are found upon the normal mucous membranes.

[2] Lee, Dr. L. J. W.: Influence of Diathesis upon Contagion. New York MEDICAL RECORD, vol. xxv., No. v., p. 84.

[1] Ptomaines or leucomaines.

[2] Virchow has shown this to be eminently true of septæmia.

[3] Midland Medical Miscellany. As expressed by Griffith, this theory implies "the unity of poison and differentiation of resultant phenomena which we call symptoms—not because of any difference in the poison which may be the *origo mali* of so-called various diseases, but differentiations dependent upon the media through which the poison passes, or upon which it falls, the evolutions and development of that one poison being marked by new phases, new manifestations to which rightly we should not apply the expression separate diseases, but rather call them simply what they are, the various expressions of the evolutions of that unity of origin, whatever it may be, which has set them all agoing."

quite plainly the corelation of certain infectious diseases formerly supposed to be separate and distinct affections.

Now to attempt the application of this theory of the spontaneous development of specific poisons to the development of the viruses or germs of the local venereal diseases:

The idea that the chancroidal poison is one which has always been inseparable from the human species, is of course untenable. Somewhere along the line of our ancestry chancroid appeared, but at what time, history does not tell us. The human race in general must have begun existence with a considerable capital in the form of a healthy organization, and every disease which now affects unfortunate humanity must necessarily have developed since the species originated. As the races have become differentiated, or have diverged, new circumstances of environment have been encountered which have modified the organism of the human being, and in the course of evolutionary progression many and various diseases have arisen.

This fact has been due to—

1st. The appearance upon the scene of weaker and more susceptible organizations than those of the parent stock.

2d. Changes of telluric and climatic influences.

3d. Injuries and vicissitudes experienced in the struggle for existence, modifying the organisms of numerous individuals, such modifications being transmitted to their descendants.

4th. Varying character and quantity of food and drink, alcoholics within a considerable number of generations having exerted a marked influence.

5th. Varying sanitary circumstances, involving crowd poison, and other forms of noxious and contaminating animal matter.

6th. Varying personal hygiene, involving cleanliness, exposure to cold and wet, and other influences which may modify individual constitutions. The question of sexual habits here enters into consideration, and is necessarily of especial importance in its bearing upon the evolution of the venereal diseases.

7th. The gradual and certain evolution and differentiation of, and acquirement of new properties by, living germs.

So much for the acquirement of disease in general.[1] Gonorrhœa and chancroid have probably arisen in a manner precisely similar to the evolution of other infectious diseases, and while it is premature to say that the poisons of the two diseases are precisely identical, I am firmly convinced that they are different in degree rather than kind, and of a similar origin to say the least. We are not lacking in authorities who believe them to be precisely the same. Dr. R. W. Taylor is one of the leading authorities who claim that chancroid is not a specific disease in the sense that we speak of variola, and that, moreover, its poisonous secretion is precisely the same as that of gonorrhœa. Dr. F. R. Sturgis also holds this view.

The origin of gonorrhœa and chancroid must necessarily be the same, if the evolutionary theory of their origin be correct. The vagina of the female is as excellent a nidus or hotbed for the generation of poisons, as could be well imagined, and when we consider the large number of women who are affected by uterine or vaginal diseases, it is a matter of wonderment that the venereal affections are so few in number and manifestations.

There exists, even in perfectly healthy women, the circumstances of heat, moisture, protection from air and light, and the occurrence very often of local irritation in the form of excessive cohabitation. Superadd to these normal or quasi-normal conditions a suitable pabulum for the development of germs in the form of uterine or seminal discharges, and we are apt to have conditions decidedly detrimental, not only to the woman herself, but to the generative organ of any one with whom she may chance to have sexual congress. Few women are free from disease; indeed, the woman who is perfectly sound is a *rara avis*, and in the uterine discharges bacteria may develop and wax fat. Many women, through ignorance in some cases, through natural physical indifference in others, are exceedingly unclean, and allow both natural and unnatural secretions to accumulate until the condition of their sexual organs is indeed filthy. This is especially the case in the low class prostitute, and unfortunately is often the case among women who are respectable or quasi-respectable. As has been remarked by others, in connection with the subject of urethritis and chancroid, the high-toned prostitute is not so open to impeachment upon the score of uncleanliness as those of a lower grade. In a general way it may be said that if every man could view for himself the actual condition of most of the women of easy virtue with whom he is brought in contact, there would be a decided improvement in the moral tone of the community. I may also add, that with the present unhealthy manner of living in vogue among the fair sex, many young men would give up all romantic ideas of matrimony, if they could but inspect the object of their ambition through the speculum of the gynæcologist. So much for uncleanliness and disease, independent of the question of virtue and morals.

As the circumstances of uncleanliness, unhealthy secretions, local irritation, heat, moisture, and deprivation of free air and light favors the development of germs, and particularly those of decomposition, it may be readily understood that after a time such a bacterial development actually takes place in the vaginæ of some women. The innocuous germs of the atmosphere enter, and begin their work of procreation or multiplication in an environment scanty in its supply of oxygen,[1] decomposition occurs, and *pari passu* with it new germs appear upon the scene which differ from the parent stock; and so the process goes on until a very irritating poison is developed. If during this time, the discharge from a diseased urethra be added to the noxious materials, or if semen be deposited in this hot-bed of putrefaction, so much the better for a development of a "specific" poison. Selmi and Gautier have shown that poisonous alkaloids develop from putrefaction, and it is to these poisonous substances or ptomaïnes that I am inclined to attribute the trouble in gonorrhœa and chancroid. The decomposition of semen is especially likely to produce such a poison. If this be correct, it is to the products of the bacteria, rather than to the bacteria themselves, that we must attribute the results of chancroidal and gonorrhœal secretions. It is, therefore, assumed that while bacteria may be present in cases of gonorrhœa and chancroid, they are by no means necessarily so. This would explain why scientific observers have found bacteria or cocci in some cases, while they have been unable to do so in others. The varying degree of acridity and quantity of ptomaïnes, and the varying susceptibility of mucous membranes would explain the differences which appear to exist between gonorrhœa and chancroid, as well as between mild and severe types of the same disease.[2]

[1] Independently of the existence of the living germ, attention may be called to the generally unappreciated fact that all poisons act upon the animal body in accordance with physiological laws. The physician speaks of the physiological effects of his drugs, but strange to say, never of the physiological effects of the *materies morbi* of disease. The effects of poisons vary; thus, opium gives a wide range of results, from nervous stimulation to fatal coma, aconite varies in its effects from moderate sedation to cardiac paresis, malarial poison (or germs) from slight depression of the vital functions to fatal coma, and so on, ad infinitum. Again, some poisons have a local as well as constitutional effect, the local changes which they produce being also purely physiological. The science of medicine will never become philosophical until these facts are generally both appreciated and applied.

[1] "The experiments of Pasteur on chicken cholera are well-known. In hope of diminishing the infective power of this organism, he grew it in oxygen for a long time, and found not only that it produced a modified disease, but that this attack in most cases protected the animal from the effect of the organisms in their most virulent state!"—British Medical Journal, December 31, 1881, p. 1062.

[2] Eklund claims to have found in the secretions of both gonorrhœa and chancroid the characteristic "gonococcus" claimed to have been discovered by Neisser. He also describes mycelial woven filaments, termed ediophyton dictyodes. This parasite he also claims to have seen in both diseases. So far as it goes, this is confirmatory of the corelation of gonorrhœa and chancroid.

Now as to the conditions which modify the results of the virus generated *de novo* in the human vagina. These are as follows:

1st. It is obvious that much depends upon: *a*, the age of the decomposition; *b*, the degree of inflammation present; *c*, the frequency of coitus; *d*, the constitution and habits of the woman; *e*, the character of any semen or urethral discharges which may be deposited in the vagina; *f*, the degree of cleanliness of the woman.

2d. The amount and degree of virulency of the virus deposited upon the absorbent surface in another individual.

3d. The cleanliness, local and constitutional condition, habits, and sexual hygiene of the recipient of the cultivated virus.

4th. Individual predisposition.

With reference to the latter point, Dr. Jordan Lloyd has made the following excellent remarks: "There can be no doubt that some individuals contract—and even develop—venereal disease much more readily than do others. There can be no doubt that all physicians, from the nature of their calling, must, during the course of each year, be exposed to infection, of one kind and another many hundreds of times. I am not aware that physicians take any particular precautions in the way of protecting themselves from these influences. Immunity does not, in every case, depend upon their having already suffered from attacks of the various infectious diseases. How is it, then, that they so rarely become affected? It is because they have not the predisposition, whatever that word may mean; because their bodies do not present a suitable nidus for the growth and development of the germs of disease. Again, in a class of cases more closely allied, clinically and pathologically, to those under discussion, how often do we see among hospital officers men who are frequently developing crops of hospital furuncles on their hands and arms, others with constantly recurring sore throat, others with inflamed wounds and lymphatics from *post-mortem* abrasions, while at the same time and under precisely the same conditions there will be men who, year after year, remain free from all such troubles. Susceptibility of one class of individuals to certain poisonous influences, or insusceptibility of the other, must be the explanation. There is nothing more strange in it than in that of many of the well-known "idiosyncrasies;" for example, the poisonous effects of eggs and tobacco on certain persons."

This author further alludes to a certain class of persons who are familiar to every observant physician, as "suppurators." This is the class of people in whom, as we well know, wounds are more likely to heal by granulation than by first intention. Lloyd speaks of such persons as follows: "These people, apparently of robust health and iron constitutions, frequently have boils; when their lymphatic glands inflame, and they often do, the process more often terminates in suppuration than resolution; trivial wounds in such people do not dry up at once, they heal by granulation. I believe these suppurators contract venereal diseases where ordinary mortals escape them."[1]

Under the head of local conditions, phimosis, paraphimosis, balanitis, posthitis, and herpes not only modify the course of chancroid, but indubitably act as predisposing causes.

As a consequence of the widespread variation that exists in the conditions which I have given you, there may result from different inoculations of essentially the same products of decomposition different degrees of infection. Thus the disease acquired by exposure to such irritating material may be: 1st, a simple balanitis or balano-posthitis, or venereal vegetations; 2d, simple urethritis; 3d, a virulent urethritis; 4th, simple venereal ulcer indistinguishable from advanced herpes; 5th, classical chancroid. As you may imagine, I would find it difficult to show you just what variation in the development of the poison determined a gonorrhœa upon the one hand and a chancroid upon the other, but you will be perfectly safe in assuming that comparatively trifling differences in the circumstances of the development of the poison, as well as the differences in the local and constitutional condition and idiosyncrasies of patients, are amply sufficient to account for the difference in results. We will lay theoretical considerations aside for the moment and consider some of the clinical facts bearing out the theory of the development of chancroid and gonorrhœa *de novo*, and its corelation with other and simpler affections:

1st. It is found that the discharge from a virulent gonorrhœa, if confined by a tight prepuce, will cause quite severe inflammation and phimosis (*i.e.*, balano-posthitis). If not speedily relieved, excoriations and even ulcerations will result.

2d. The discharge from these lesions as well as that of gonorrhœa will oftentimes produce a pustule if auto-inoculated. It will generally produce some inflammation, and in experiments upon cachectic patients, I have known the tissues to break down in ulceration, which I am free to say appeared to me to be identical with some of the simpler cases of chancroid.

3d. The long-continued contact of these secretions with the mucous membrane often causes a crop of venereal warts. These frequently result from simple irritating secretions, *e.g.*, in pregnant women, and are an occasional complication of chancroid.

4th. Chancroid of the urethra is always attended by urethritis of greater or less severity.

5th. Gonorrhœa and chancroid are often associated in the same patient, either appearing at the same time or at such an interval that one may quite plausibly be due to infection by the secretion of the other.

6th. Both diseases are contracted from the same class of females, and often from the same woman. The higher class of prostitutes comparatively seldom convey either disease.

7th. I have myself examined women from whom both diseases had been contracted by different men at different times, and found them unclean, but at the same time free from both acute and chronic vaginitis and chancroid.

8th. Any of the urethral or genital lesions may be followed by suppurative bubo, differing chiefly in degree from virulent bubo. I have succeeded in auto-inoculating pus from a bubo secondary to severe balanitis.

9th. It is always difficult to say where simple genital ulcer terminates and chancroid begins. The test of auto-inoculation is hardly fair, as it simply tests the degree of virulency of the ulcer.

10th. The natural tendency of chancroid is to lose its "specificity" in a short time, and by a reversion of type to assume the benign characteristics of a simple ulcer.

I have been asked why all cases of gonorrhœa do not present ulcerations if the poison be the same as that of chancroid, and why urethral chancroids do not destroy the entire urethra. Now let me repeat that I believe the poisons are similar in origin and kind, but different in degree. To the first question I would answer, because the virus is not so highly developed as that which produces chancroid, and because, moreover, the urethra is a different structure from the glans penis, and is being frequently flushed out by the urine. For that matter, instead of pronouncing a case chancroid of the urethra and complicating urethritis, why not term it a gonorrhœa with ulceration? Perhaps the former diagnosis is confounding the *propter* with the *post*. In answer to the second question, I will state that the reason for the non-extension of urethral chancroid is the same as for its non-extension when it occurs upon the external surface of the genitals. As the virus invades increasing areas of healthy tissue, it necessarily meets with a resistance proportionate to the inherent vitality of the cells of the healthy tissue, and as a consequence, unless the local conditions are extremely favorable to the development of noxious and irritating

[1] Birmingham Medical Review, October, 1886.

secretions, the activity of the virus becomes exhausted after a time. In addition to this fact, we have the circumstance that there is more or less inflammation attendant upon chancroid, and as a result we have an exudative barrier of greater or less extent thrown up about the lesion, which opposes its progress to a certain extent. If, however, the patient be uncleanly or unhealthy, or if he be possessed of an idiosyncrasy predisposing to phagedæna, there is little vitality in the normal cells to oppose the inroads of the chancroidal process, and so slight an exudative formation that rapid destruction of tissue is liable to occur. These latter points must be taken into consideration in our studies and treatment of chancroidal phagedæna, and phagedenic bubo, as they will be of great assistance to us in actual practice.[1]

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REPORT OF TWO CASES OF DEATH IN YOUNG CHILDREN DURING THE ADMINISTRATION OF CHLOROFORM.

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AND

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Dr. Sherman's Case.—On July 2, 1889, a boy, aged five years, was chloroformed at the Children's Hospital for the little operation of curetting some tuberculous sinuses. The chloroform was given in the usual way, on a towel held a short distance from the face. Anæsthesia was easily produced, and the sinuses curetted. At the bottom of these was found a small patch of carious bone, and, as the child began to move, a little more chloroform was put on a towel and the scoop applied to the bone. At this moment the child ceased to breathe, and the hemorrhage from the wound also stopped. The chloroform was removed, the child inverted, artificial respiration done for a few moments, when the functions were restored. Color returned to the face, and the danger seemed passed. It was only for a short time, however; after twenty or thirty respirations they again ceased, though no more chloroform was used. The heart stopped, the face blanched, and the pupils dilated. Artificial respiration was again practised, the child inverted, stimulants, such as whiskey, ammonia, digitalis, and nux vomica, were given by the hypodermic, hot and cold water alternately applied to the chest, and the battery was used, but nothing had the slightest effect, and, after an hour's work, the case was pronounced hopeless and further efforts abandoned.

The case had been an exceptionally bad one of hip-joint disease, and the hip had been exsected on June 1st, in the face of unfavorable symptoms and with an acknowledged bad prognosis. At first there had been no improvement, but for the three weeks preceding this accident there had been decided gain, and it was in the hope of making the gain more sure and more rapid that the operation was undertaken. It has been the custom at the hospital to give to the children, when the most painful stage of dressing was reached, a few whiffs of chloroform to produce a brief anæsthesia, and this custom had grown on us by immunity in its practice. The drug was always administered by a physician who gave attention only to that one thing, and there had never been any unpleasant effects, except in two cases a brief suspension of respiration, such as is sometimes seen when ether is used. This particular child had taken chloroform three times before, and on the third occasion he had supplied the second of the two cases mentioned; but the cessation was so slight that it was only remembered by the anæsthetizer after the fatal result of the last administration. At each of the three previous times more chloroform had been given, and anæsthesia had been longer than on the fatal occasion; for then anæsthesia had been established not longer than one and a half minute, and not more than a drachm of chloroform had been poured on the towel.

Remarks by Dr. Sherman.—If this case had been that of an adult, this history would have no particular interest. For among adults, chloroform frequently selects for its victims those who take it for a slight operation, who have taken it safely before, and who are not thoroughly anæsthetized when death occurs. But with children, chloroform has been considered a safe drug. This idea has been held by many in the profession, and by some, as Paget and Owen, is definitely stated as safe. It is possible that the result may have been the same if ether had been used, but this is not probable; and this case is reported to call attention to the fact that chloroform anæsthesia in children may be as dangerous, and what is worse, as treacherous as it is in the case of adults.

Dr. Gibney's Case.—A female child, two years of age, with a sacral spina bifida, was put under the influence of chloroform at my clinic on June 19, 1889. The patient was in excellent health, hearty and robust. The mother said it had never been sick. The chloroform was of good quality, and was administered in the usual way. That is, a small towel was saturated with the drug and held over the nose and mouth, but not in contact with the face. Within five minutes the child came under its influence, the pulse and respiration good. The hypodermic needle was thrust into the base of the tumor, and between six and seven drachms of serum mixed with a little blood were evacuated. The sac was injected with two drachms of what is known as Morton's fluid—iodine, ten grains, potassium iodidi, one half-drachm, glycerine, one ounce. The whole operation lasted about ten minutes, during which time the child was not profoundly anæsthetic, but cried out occasionally. The needle was withdrawn and collodion on cotton placed over the opening, a flannel roller applied around the body preparatory to a more snug dressing. At this time, however, the lips became blanched, the pulse feeble, and three minims of Magendie's solution of morphia were injected hypodermically. The breathing at once became more regular—pulse a little better. Very soon after this, almost immediately, the pulse grew feeble again, and forty minims of brandy were injected, when the patient ceased to breathe, and efforts at resuscitation, such as lifting the child by the feet, head down, artificial respiration, faradism, etc., proved of no avail.

This was about noon. In the afternoon the coroner held an inquest. Dr. Thacher, of the Polyclinic laboratory, made an autopsy, and no cause was found for death. The heart appeared normal in every particular. The iodine fluid did not enter the spinal canal, but was spread out over the sac. The kidneys were normal. Lungs normal. The coroner's verdict was death from chloroform.

It has been my custom for years to administer chloroform to children under the impression that death seldom or never occurred as a consequence. In correspondence with my friend, Dr. Sherman, I learned that he had had the same misfortune, and at my request, he sent me his case for publication. Naturally enough, since the events above recorded, I have encountered in medical literature references to the dangers of chloroform almost weekly. In the *Lancet*, October 19, 1889, I found this heading in a leader:

"Deaths under Chloroform.

"At an inquest recently held, the particulars were given of the death of a child, about six years of age, who succumbed to chloroform at the Victoria Hospital for Children. The child was admitted for treatment of dis-

[1] In his recent Lettsomian lectures, Mr. Jonathan Hutchinson expresses the opinion that chancroid usually occurs in persons whose systems have been impressed by syphilis at some period more or less remote. In other words, it is a mild manifestation of syphilis in a person who has already been sypbilized. This theory appears to be as untenable as it is striking.

ease affecting the left hip-joint. He had taken chloroform successfully upon two previous occasions, but on the day upon which the operation was to be performed the boy died after having inhaled the anæsthetic for fifteen minutes. A post-mortem examination was held, and the medical officer is reported to have said that there was fatty degeneration of the heart, liver, spleen, and kidneys. The death recorded illustrates the fallacy of two popular beliefs: first, that a person that can take chloroform with impunity upon one occasion will subsequently enjoy an immunity from danger; and, secondly, that children, who proverbially take chloroform so well, are less liable to fatal accidents from its effects than are adults."

In this same article, the last paragraph, we have the following:

"Almost before the ink is dry with which we record the above fatality, the report arrives of the death of a woman in a Dublin hospital, to whom it was proposed to administer chloroform as a preliminary to amputation of the thumb. It appears before she was fully anæsthetized she collapsed and died."

Alexander Wilson, the Administrator of Anæsthetics in the Manchester Royal Infirmary and Victoria Dental Hospital, in the *Lancet*, September 14, 1889, makes this statement:

"In the medical journals for the last ten years, there are reported one hundred and twenty (if not more) cases of death under chloroform. Many of these are very imperfectly described, but in at least forty-nine cases the patients were in good general health at the time of administration, and required the anæsthetic merely for the performance of some minor operation. Example—extraction of teeth (eleven cases of death), reduction of dislocations (nine cases), eye operations, fistulæ, and so on. In some fifty-nine cases death occurred before the commencement of the operation, and so was clearly due to the chloroform alone. In about twenty of the cases it is noted that chloroform had been successfully given on previous occasions; in one as many as eight different times before the fatal administration."

It was not my intention in reporting these cases to go into the subject of chloroform narcosis in adults, but to call attention to its administration in children, and to contribute my mite toward its discontinuance. In talking with a friend in Hartford, Dr. Wainright, on this subject, he tells me that he is in the habit of ordering it in the small vials, and that he never uses one vial twice, under the impression that the exposure to the atmosphere produces such alterations as to destroy its purity and greatly increase the danger. He believes that, "If Squibb's chloroform is used, and administered in an inhaler which produces the evaporation to the minimum (a dry tumbler in which is placed a small pocket handkerchief makes an admirable one), the danger is also reduced to the minimum, and it can be used with as little fear as ether." I have purposely given Dr. Wainright's opinion because of his prominence as a surgeon, and to meet the objections of some of those who say, "You do not give it properly," or "The chloroform is bad." After my interview with the doctor I addressed a letter to Dr. E. R. Squibb, of Brooklyn, asking a letter covering these points, and the following is his reply:

"Brooklyn, November 1, 1889.

"My dear Doctor: Your favor of the 31st is received, and I very gladly tell you all I know in regard to the keeping properties of the officinal purified chloroform. If this chloroform be kept in colorless glass and exposed to light, it is apt to undergo partial decomposition in the length of time proportionate to the brightness of the light, or the length of the exposure. But this decomposition, even when very slight indeed, is very perceptible in the odor of the chloroform, as it causes a very irritant effect of the air-passages in smelling it. Almost anyone in the habit of using chloroform at all, would detect this decomposition at once by the smell, and be pretty sure to reject any chloroform which had suffered this change.

"If kept from light, however, even in colorless bottles, this change does not occur within any reasonable length of time. If put up in amber-colored bottles, then no such change occurs even within two or three years, for I have samples now in my possession which have been kept in the ordinary amber-colored vials for many years, and are as good as when first put up.

"Next, in the ordinary use of chloroform so put up and so kept with a moderate degree of care, and only opened from time to time as portions of any particular package may be wanted for use, there is no perceptible change that takes place spontaneously in the chloroform, and a one-pound bottle or even a six-pound bottle may be used, a little at a time from beginning to end throughout, say—a year, without any perceptible change being discoverable in the chloroform which may remain in the bottle; at any time during this usage, even if such a bottle in use should be accidentally left unstopped or loosely stopped for any moderate periods of time during its use, and nothing should get into it except the ordinary atmosphere, it would not decompose nor be rendered unfit for use. If, however, as is the practice with some, a portion should be poured out of the bottle and be only partially used, and then the remainder poured back into the bottle after having been subjected to a very liberal contact of air, and perhaps the vessel breathed into, and then the remainder poured back into the bottle, the whole would soon become vitiated by this practice. It is not uncommon nowadays for physicians to give chloroform by simple inhalation from a wide-mouthed bottle, the bottle being held to the nose until the desired effect is obtained; then, if such chloroform as may remain unused be poured back into the bottle, it would of course vitiate the whole, because it would contain much of the products of respiration. All such residues should be thrown away and the wide-mouthed bottle be scrupulously cleansed before being used again, and there is no occasion for any great loss here, because no more than one or two drachms should be put in the bottle at any one time.

"I think I can confidently state to you, that any influence of the atmosphere upon the chloroform in an unstopped bottle, in any ordinary way of using, would not be hurtful to the chloroform nor dangerous to the patient, and I see no possible use that there could be in refusing to use chloroform a second or a third or a twentieth time from the same bottle, provided the bottle be managed with ordinary care and no residues of chloroform ever be returned to it.

"Very glad if I may be of service to you.

"Very truly yours,

"E. R. Squibb."

THE OPERATIVE TREATMENT OF ERYSIPELAS.[1]

By WILLY MEYER, M.D.,

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There has so comparatively little been said on this side of the ocean about the new operative treatment of erysipelas, and the method is such a good, reliable, and safe one, easily carried out by every general practitioner, that a few minutes may perhaps be granted to me to give a short report of my experience with the same.

As is well known, Volkmann had reported, by his assistant, Kraske, in 1880,[2] a number of cases of severe diffuse septic phlegmon cured by multiple incisions and scarifications. The favorable results achieved with this procedure have been frequently confirmed.

As it seemed probable that this method, if powerful

[1] Read at Albany, at the meeting of the Medical Society of the State of New York, February 5, 1890.

[2] Centralblatt f. Chirurgie, 1880, No. 17, p. 265.

enough to stop a diffuse infectious inflammation of the subcutaneous connective tissue, would act in a similar manner upon an infectious spreading inflammation of the skin, Kraske tried it for the cure of genuine erysipelas. His results were so encouraging that, in 1886, he had the history of three cases published,[1] which proved that an erysipelatous inflammation can also be prevented from spreading by surgical interference. The scarifications and multiple incisions, of one-third of an inch in length (from fifteen to twenty to the square inch) were made both in the skin involved and in the adjoining sound portions. If the erysipelas was very extensive, the scarifications were not made in the diseased area itself, but only

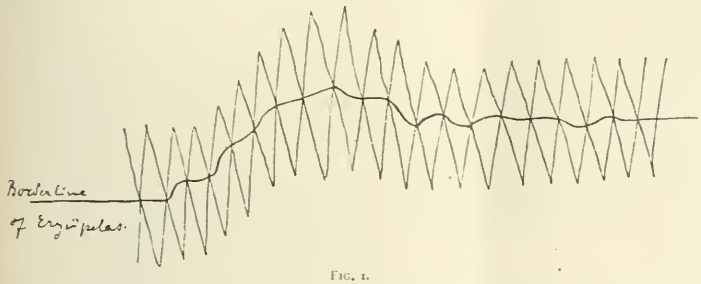

FIG. 1.

in the sound portion of the skin adjacent. In both cases the patient was anæsthetized. After the comparatively abundant bleeding had stopped, the skin was squeezed to press out the serum containing the infectious cocci, and at the same time irrigated with a five per cent. solution of carbolic acid. At last it was thoroughly washed with the same lotion, and dressed with moist compresses, soaked in a two and a half per cent. solution of carbolic acid. Dressings were changed once or twice a day. In two of the cases a single operation was sufficient to arrest the disease; in the third the operation was repeated twice before the inflammation was under control.

In 1887 Riedel[2] proposed to make superficial incisions in the border-line of the erysipelatous area only, because it has been shown that here alone the erysipelas cocci accumulate and proliferate, thus extending the inflammation. The incisions should just penetrate the chorion. They were about two inches long and one-sixth of an inch apart, one crossing the other at an angle of about forty-five degrees, the crossing-point being exactly on the border of the inflammation. Thus the whole invaded region was encircled with a net-work of cuts, not unlike a rail-fence (Fig. 1). It represents simply a double zigzag line, the points of which unite. For his dressings Riedel used gauze soaked in a sublimate solution, 1 to 1,000, to be renewed three times a day. This reported series of eleven successful cases shows the equally great value of this simpler modified procedure. Only in two of the eleven cases was it necessary to repeat the operation on account of the further spreading of the disease.

Last year Lauenstein proposed, in a paper read before the Medical Society of Hamburg,[3] to improve the Kraske-Riedel method by locating this fence of incisions entirely in the sound tissue, about one inch away from the border of the erysipelas. This should be done to prevent the knife from coming in contact with the infected parts, and avoiding possible infection of yet uninfected tissue. Of course in this case the expression of the serum was omitted. In one of his five cases the scarifications had to be repeated.

This is, in short, the history of the operative treatment of erysipelas. It had been already advised, in 1828, by Dobson,[4] although he failed to describe the procedure in detail.

[1] G. Kühnast: Centralblatt f. Chirurgie, 1886. No. 9, p. 137.
[2] Classen: Centralblatt f. Chirurgie, 1887. No. 19, p. 361.
[3] Deutsche Medicinische Wochenschrift, 1889, No. 11.
[4] Medico-Chirurgical Transactions, 1828, vol. xiv.

My own first experience with this treatment dates from December 12, 1888. A boy, whose knee-joint had been excised by me at the German Hospital, with perfect success, the wound having healed by primary union, returned, with a sinus over the remnant of the outer condyle of the femur, a few months later. The sinus and bone were scraped after application of the Esmarch bandage, and with all the usual antiseptic precautions, and the wound dressed before the elastic band had been removed. But the next morning temperature was 104° F. On examination erysipelas was found around the knee-joint, spreading upward and downward. As the parents refused to have the boy isolated, he was taken home. On the next morning, twenty-four hours after the appearance of the erysipelas, the patient was anæsthetized and the scarifications made, according to the Kraske-Riedel method, around the upper third of the thigh, to which region the disease had already spread. The leg was surrounded, just above the malleoli, by a simple zigzag line of incisions instead of the fence. Irrigation and thorough rubbing of the wounds with sublimate, 1 to 1,000, dressing with clean gauze, soaked with same lotion. On the following morning temperature was down to 99° F., and did not rise again. The erysipelas was permanently arrested.

My second case shows still more evidently that we should not treat erysipelas symptomatically any more, but that we *can* fight it with the knife. On September 16, 1889, I was called by Dr. R. Hein, of this city, to see with him a baby, twenty months old, who, on the morning of the same day had been attacked by a marked erysipelas of the left leg, with all its characteristic symptoms, starting from a perforated varicella pustule. Temperature above 104° F.; restless. As there was no doubt in regard to diagnosis, we met the same evening prepared for the operation. The inflammation meanwhile had spread upward to the knee, and downward nearly to the malleoli. After the usual preparations had been made the child was anæsthetized, and the bloody ring made in an oblique direction around the knee-joint, according to Lauenstein's

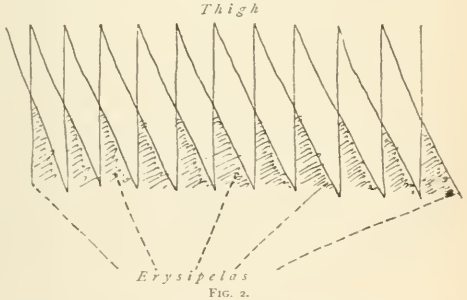

FIG. 2.

modification of the Kraske-Riedel method, in the adjoining sound skin, about an inch and a half removed from the border of the erysipelatous area. As in the first case, the leg was surrounded by a zigzag line of incisions. The next day the erysipelas was found to have proceeded up to the bloody barrier. The whole invaded spot was swollen, red, and hot, covered with blisters, and, as it seemed, painful on pressure. But the erysipelas had not jumped over the fence. Below, it had nearly reached the scarification line. At the knee, where it evidently had spread very quickly, it had entered and filled the sharp angles opening downward of the fence. There the skin was dark-red. But the adjoining rhomboids of skin, outlined by the

incisions, retained the normal white color. The picture was very interesting and demonstrative (Fig. 2).[1] Within thirty-six hours the temperature was normal, and the disease permanently arrested. But two hours later the thermometer again registered 105° F. The cause was found to be an erysipelas of the other leg, where, also, a few open sores had given entrance to the cocci, although they had been carefully dressed all the time. The baby was again put under chloroform and the same operation performed as on the other side. I only put the fence about one-half inch nearer to the border of the infected portion, in order to leave a smaller area of invasion to the threatening foe. Again the wounds were thoroughly rubbed with sublimate solution, 1 to 1,000, and dressed with gauze soaked in the same fluid. The next morning the little patient seemed to feel much better, but was still feverish; temperature, 103° F. The erysipelas had passed the barrier on the anterior aspect of the thigh, and also advanced down upon the foot. The general symptoms being very slight, we observed the child for the next twenty-four hours. But then seeing the red-border line slowly advancing toward the groin, I narcotized the little patient for the third time on the 20th of September, and then scarified the thigh only, anteriorly, according to Riedel, carefully following the superior contour of the redness. The next day the child's temperature was normal, and never rose again. It was cured.

I should like to mention a third very interesting case, although not belonging to my own experience, which occurred at the German Hospital last summer. A man was carried to the hospital in a delirious condition with the diagnosis of typhoid. A careful examination showed an extensive erysipelatous inflammation of the scalp spreading down the forehead. The house-surgeon, D. F. Torek, immediately resorted to scarifications according to the Kraske-Riedel method. The scalp was shaved in its anterior portion, and the ring made under ether, only between the eyebrows they were made somewhat less careful, as these had not been shaved. After-treatment the same as above described. The next morning the delirium had entirely abated, the temperature was down to 101° F., the pulse nearly normal. The cause of the still slight fever was discovered to be the advance of the erysipelas to the right cheek. It had slipped between the eyebrows, where, as I have mentioned, the scarifications had been done less carefully. But the seriousness of the inflammation was broken. On the next day the erysipelas had stopped spreading, and a short time later the patient was all right.

These cases speak for themselves. Others, as Madelung,[2] have had the same satisfactory results. There is no doubt in my mind that this operative treatment of erysipelas is the best and most reliable we know for this disease up to date. It nearly invariably insures success, and is able to arrest the disease permanently at once. It therefore ought to be tried by every physician in a case of erysipelas of the trunk or extremities. In the face the danger of permanent scars that might be left after the scarifications would lead us to limit the method to the most serious cases. But this danger evidently need not interfere with the application of the method to the hairy scalp.

A semi-surgical method, recently advocated by Woelfler,[3] deserves perhaps a passing mention in this connection. He recommends compression of the border region by adhesive plaster-strips. I have no personal experience with this method; but Woelfler claims to have had splendid results. If the same good results should be confirmed by others also in severer cases of erysipelas, and if it should be shown that this method can be applied in any region of the body with an equal success, it of course deserves trial. To avoid the necessity for narcosis in the scarification method, in this small but painful operation, A. Seibert, of New York City, who has recently published an article on the surgical treatment of erysipelas in children,[1] has invented a new instrument, called a scarificator,[2] of the shape of a cone, with which he scratches a large surface with one stroke. He tried it successfully in four cases. Whether the instrument will work satisfactorily in a severe wound of erysipelas, remains yet to be proved. L. Weber proposed a similar instrument for this purpose, in the MEDICAL RECORD, 1889, vol. 35, p. 569. I myself am more in favor of using the knife, which is found in every pocket-case, and of putting the patient under the influence of an anæsthetic. It will be better for the patient and for the doctor. In conclusion I might say this:

1. It seems to be the most rational procedure, in operating for erysipelas according to the Kraske-Riedel method, to make the scarifications near the border, but in sound tissue, as Lauenstein has proposed it.

This dictum is justified by the history of about forty cases, which have so far been published.

2. The barrier is most easily formed, if perpendicular and oblique lines are made alternately.

3. The incisions should not be made too deep, just sufficient to draw blood, as in the rules for vaccination. It is also advisable to narcotize the patient.

4. If after the operation the inflammation continues, nevertheless, its character will be found invariably to have become less serious, from which we may infer that only a relatively small number of infectious cocci have succeeded in crossing the barrier. In strong patients, being in good condition, the operation need not then be repeated. But if the patient is feeble and unfit to cope with a continuance of the disease, new scarifications should be made.

5. The after-treatment must be carried out with moist compresses, soaked in sublimate, 1 to 1,000, to be changed two to three times a day. But unless the change can be made by the doctor, or a competent nurse, the dressings should be left in place and kept moist by frequent irrigation with the same lotion.

[1] Of course the erysipelas will not always stop at the first zigzag line, viz., the one nearest to it, in such a characteristic manner. Frequently it may enter the thomboids. But to spread still farther, it must pass the second zigzag line, which has meanwhile been thoroughly disinfected with the antiseptic. In doing so its strength is again reduced, and is then so weak that it is usually harmless. It is therefore advisable not to content one's self with making a simple zigzag line, but it is always better to add the second one, which will complete the fence.

[2] Centralblatt f. Chirurgie, 1888, p. 588.

[3] Zur mechanischen Behandlung des Erysipels, Centralblatt f. Chirurgie, 1888, p. 718, and Wiener klin. Wochenschrift, 1889, Nos. 23–25.

PROGRESSIVE FACIAL HEMIATROPHY, WITH SOME UNUSUAL SYMPTOMS.[3]

By B. SACHS, M.D.,

PROFESSOR OF DISEASES OF THE MIND AND NERVOUS SYSTEM IN THE NEW YORK POLYCLINIC.

CASES of facial hemiatrophy have an interest apart from their rarity. Any attempt to explain the symptoms necessarily leads up to the question of the existence of trophic nerve-fibres. The unusual symptoms of my case have a special bearing upon this question, and it is for this reason in particular that the case is reported. I am indebted to Dr. A. G. Gerster for the opportunity of seeing this patient. At the time of the first examination she was in Mount Sinai Hospital, and from there was transferred to my department in the Polyclinic. Her history is as follows:

E. K——, Russian, aged nineteen, single; mother died from unknown causes, father living; the patient has one unmarried sister who is also healthy. First menstruation at the age of fifteen years. She was entirely well until about one year ago, when she noticed a peculiar appearance of the skin just below the left nostril, and was also struck with the fact that the face grew thinner below the left eye and above the left angle of the mouth. There is

[1] New York Medical Journal, 1889, p. 430.

[2] Med. Monatsschrift, 1889, p. 664.

[3] The patient was presented to the Neurological Section of the New York Academy of Medicine, December 6, 1889.

no history of any antecedent emotional excitement or injury; no erysipelas or other acute infectious disease preceded the onset of the present trouble.

Examination.—A healthy-looking, robust girl. Right half of face chubby, and all parts well developed. Distinct atrophy of middle and lower third of left side of face; the atrophy involves the skin, fat, and also the muscles and bone of this side of the face. The masseters stand out very prominently, in part as a result of the atrophy of other muscles, and in part because they present one of the unusual symptoms. At intervals of a few seconds only, a series of *clonic and then tonic contractions of the temporal and masseter muscles* can be observed. During this time it is impossible for the patient to open the jaw, and the face wears a very anxious expression. As the spasm extends to the tongue, and sometimes begins with the tongue, speech is impossible while these contractions last. These muscular spasms occur very frequently, and are most apt to follow upon excitement or exposure to cold. They are not only annoying, but painful, and were the cause of the patient's seeking medical advice.

Left side, distance from middle of chin to angle of jaw, 11 ctm.; on right side, 12½ ctm. Left side, from upper margin of naso-labial fold to middle of ear, 10¾ ctm.; on the right side, 11½ ctm.

Movements of face and jaw: Muscles supplied by facial on both sides act normally except on left side, the attempt to puff out cheeks reveals atrophy of the parts and tissues involved.

Action of masseters entirely normal until spasms supervene; lateral movements of lower jaw also of normal extent.

Tongue: Distinct atrophy of left half—another "unusual symptom"—and of left floor of mouth under tongue.

Appearance of skin: No peculiarity except the "scar" on left upper lip, which is slightly pigmented, and which is evidently due to the disappearance of the fatty deposit in the skin; the skin is neither thickened nor glossy; the eyebrows and eyelashes are the same on both sides and entirely normal. No unilateral sweating to be observed even after the administration of a hypodermic injection of pilocarpine.[1]

Tactile pressure and temperature-sense entirely normal. Pain sense diminished a very little on left side.

Taste, smell, and hearing unobjectionable. All these special senses were most carefully tested.

Ocular movements and pupillary reflexes entirely normal. Faradic response of temporal and masseter muscles, of facial nerves and muscles altogether normal; naturally the movements of the right side of face appeared more vigorous.

The examination of the other parts of the body gave negative results, the only point worthy of notice being this, that the repeated thermometrical measurements of external ear showed a difference of one degree in favor of *right* ear.

The history shows that a number of the more serious symptoms observed in other cases—the enophthalmos, the falling out of the hair, and other dermal changes were either but slightly developed or entirely absent. The case was distinguished, however, by the spasms of the temporal and masseter muscles and of the tongue, also by the atrophy of the left half of the tongue and of the floor of the mouth under the tongue.

This exact association of symptoms has been observed in but one other case.[1] Spasms of the masseter and temporal muscles are not mentioned in the many records I have had access to, while atrophy of the tongue seems to be of more frequent occurrence.

The cases of progressive facial hemiatrophy present a great variety of symptoms. Any attempt at a physiological interpretation of the symptoms will reveal the fact that the disease cannot be limited to any one nerve. The old dispute, whether the trigeminus or the sympathetic be the chief sufferer may well be abandoned, for in some cases both are evidently involved; in some the trigeminus only, and in some the sympathetic only. It would be a simple matter, then, to disregard anatomical data and to make facial hemiatrophy a disease of trophic fibres — a true trophoneurosis. In addition to trophic fibres, motor fibres must be involved, or else the unusual symptoms of my case—the motor spasm—could not be explained.

Trophic fibres, like their poor relations, the vasomotor fibres, have been a sort of medical bugaboo. Their existence seemed to be a postulate, yet no one felt able to prove that they were as real as motor fibres are. The physiologists denied their existence, while the pathologists had difficulty in explaining trophic symptoms except on the supposition of the existence of distinct trophic fibres. The trophic symptoms in cases of peripheral neuritis, in compression of the posterior root-fibres by tumors of the cord,[2] pointed indubitably to special trophic fibres in the peripheral nervous system. A little light has been thrown incidentally upon this subject in connection with the study of facial hemiatrophy.

Mendel[3] has been the only one[4] fortunate enough in recent years to obtain an autopsy in a well-defined case of this disease. The patient, who had passed through the hands of Romberg, Remak, Virchow, and others before she came to Mendel, had during more than twenty-five years presented all the symptoms of typical facial hemiatrophy complicated by atrophy of the left upper extremity. Erysipelas during confinement had immediately preceded the first onset of the symptoms. The autopsy, or, rather, the minute examination of the entire nervous system, revealed a neuritis interstitialis proliferans (Virchow) in all branches of the left fifth nerve, most marked, however, in the second branch; the facial was entirely normal, while the left musculo-spiral had undergone the same changes as the left trigeminal nerve.

Apart from some minor changes in the spinal cord (diminution of ganglion cells in the fifth cervical segment), which were secondary to the peripheral trouble, an atrophy of the descending root of the left fifth nerve, and a partial atrophy of the substantia ferruginea deserve most attention.

Mendel very justly claims that, as far as a single autopsy can prove anything, this one would show that the

[1] One-eighth of a grain injected under the skin of the forearm produced slight and general sweating; a higher dosage was not attempted, as the patient was made exceedingly uncomfortable by the above dose.

[1] Axman and Hueter: Inaugural Dissertation. Berlin, 1848.

[2] Cf. the author's paper on Tumors of the Spinal Cord, Journal of Nervous and Mental Diseases, vol. xiii., No. 11, 1886.

[3] Neurologisches Centralblatt, 1888, No. 14.

[4] Jolly (Arch. f. Psych., vol. iii.) had an autopsy on a case complicated by multiple sclerosis.

progressive hemiatrophy may be due to a peripheral neuritis (and in this he confirms a suspicion of Virchow), and furthermore it would indicate that the diseased parts, the descending root of the fifth nerve and the substantia ferruginea have trophic functions, presumably in connection with trophic fibres in the peripheral branches of the trigeminus.[1]

Referring once more to my own case, it is evident that the affection involves trophic as well as motor fibres of the trigeminal and hypoglossal nerves. It is a well-known fact that in some toxic cases of multiple neuritis the motor fibres of the peripheral nerves are more affected than the sensory. In some few cases the sensory fibres are involved long in advance of the motor fibres. There is, therefore, nothing foreign in the idea, if trophic fibres exist, that they be the seat of predilection for a disease which would seem to attack the peripheral nerves. My own case would show that this same affection may at times involve the motor as well as the trophic functions (fibres) of these nerves. In this connection it is worth noting that the disease often begins after some acute infectious disease, after erysipelas, and particularly after some traumatic injury to the face. And in these very conditions we recognize the etiological factors most frequent in well-known forms of peripheral neuritis. Lewin, in an excellent article on Hemiatrophy, has proved the traumatic history of 14 out of 68 cases. Mendel finds a peripheral origin in 19 out of 86 cases.

Facial hemiatrophy is evidently not related to the ordinary forms of muscular atrophy which have been the subject of so much discussion during the past years.[2] It would seem to hold kinship rather to other diseases in which the change in the nutrition of subcutaneous, muscular and osseous tissue constitutes the chief feature. Lewin has described cases of hypertrophy of the face and body by way of contrast to these cases of hemiatrophy. Rosenthal has published a case in which the symptoms of facial hemiatrophy were combined with those of a partial scleroderma and alopecia areata, while Schulz, on the other hand, has published a case in which scleroderma was combined with Addison's disease and muscular atrophy. Tuczek [3] has reviewed these cases, together with that of Mendel, and has thus suggested an analogy between them, and it may be worth adding that the symptoms of facial hemiatrophy appear to be exactly the reverse of those which are presented in cases of akromegaly; the symmetrical distribution and the general character of the symptoms in the latter disease, of course, forbidding any further inference as to the relation or differences between the two diseases. At all events, the peripheral nervous system in cases of akromegaly should be thoroughly examined post-mortem.

In conclusion let me repeat that facial hemiatrophy is, in the main, a disease of the trophic nervous system, that the trigeminal and sympathetic nerves are the ones most frequently involved; but that the affection may spread to other cranial and peripheral nerves.

[1] It is very evident that conditions of facial hemiatrophy may be of nuclear origin. Lowenfeld's case (cf. infra) points to this; the case of Flascher (Berl. kl. Wochenschr., 1880, No. 31), which Mills thinks peripheral, is possibly nuclear also.

[2] Mendel's case presented atrophy of the musculo-spiral muscles. In Cartwright's case mention is made of an atrophied spot in the deltoid. "The hole is about one inch in diameter, extending down to the bone, and can be felt through clothing"!

[3] Fortschritte der Medizin, December 1, 1889. For the general literature of the subject the reader is referred to: Eulenburg, Ziemssen's Cyclopedia, vol. xiv., 1877; Bannister, Journal of Nervous and Mental Diseases, vol. iii., 1876; G. Lewin, Charite-Annalen, 1884; Jessup and Browne, St. Bartholomew's Hospital Reports, 1882; C. K. Mills, Pepper's System of Medicine, vol. v.; Fürth, Lehrb. der Nerven-Krankheiten, p. 336.

NOTE.—In addition to the 71 cases collected by Lewin, and the 15 quoted by Mendel, I have been able to collect 11 others, bringing the total up to 97, including my own case. These eleven cases are the following: Eve, F. S., Transactions of the Pathological Society, London, 1887, vol. 38, p. 81; Cartwright, H. P., Nashville Journal of Medicine and Surgery, 1888, N. S., vol. xli., p. 190; Mills, C. K.; Pepper's System of Medicine, vol. v., p. 694; Blumenau, L., Reviewed in Neurolog. Centralbl., January 1, 1890; Ephraim, Berl. kl. Wochenschr., 1889, No. 36 (reviewed in Neurol. Centralbl. No. 1, 1890); S. Rona, Reviewed in Neurolog., 1889, p. 216 (presented at a Budapest medical society); Lowenfeld, Münchener Med. Wochenschr., 1888, Nos. 23 and 24 (nuclear case); Estor, Revue de Med., 1888, pp. 800 (complicated with hypertrophy of the upper lid, reviewed in Neurolog. Centralbl., 1889, p. 531; Ruheman, J., Centralblatt kl. Med., 1889, No. 1 (came on after operation for neurosis of upper jaw); Rosenthal, Berl. kl. Wochenschr., 1889, No. 34 (see text); Sachs, B., N. Y. MED. RECORD.

TREATMENT OF FRACTURE OF THE PATELLA.

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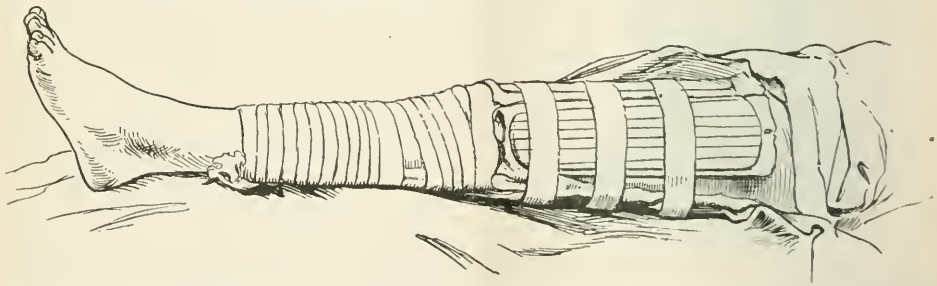
THE method of treating fractured patella here described is one with which I have been familiar since I first saw it applied by Dr. Beach at his clinic, seven years ago. I have asked permission to describe it, as I consider it of great value to the general practitioner, because from its simplicity and ready application it is especially adapted to cases in private practice.



I shall not enter into the details of any single case, but describe the apparatus as it is applied, either as adjunctive treatment to the wired compound comminuted patella, or to the simple muscular-action fracture, where, if the case be seen immediately after the accident, the separated edges of the bone may be readily felt beneath the skin.

In the treatment of fractured patella there are chiefly two things to do, and they are to first extend the leg on the thigh, and so control the position of the lower fragment; and, second, to overcome the action of the extensor quadriceps muscle, and thus regulate the position of the upper portion of the bone. Accessory to this should be the pressure by plain roller bandages over the patella, to prevent tilting or "riding" of the fragments.

This is accomplished in the method under consideration by a light wooden ham-splint, well padded and placed posteriorly over the thigh and leg, from the buttock to the upper end of the lower third of the leg, for extension; and by the application of coaptation splints with buckle straps over the extent of the great patella muscle, the quadriceps. A roller bandage should be placed over the coaptation splints, and buckle straps, but is omitted, for clearness of description, in the figure. As for the bandaging over the fragments, this may be prac-

tically confined to simple pressure to prevent "riding," as little can be accomplished with the bone and muscle beneath through the various sorts of traction over the skin. As Hamilton well points out, we should avoid pressing the skin down between the fragments. To relax the rectus femoris muscle, which, as we remember, is the portion of the quadriceps having pelvic origin, the leg should be elevated, and that best, perhaps, by placing pillows underneath and tying them in place with strips of bandage passed around the limb and the bed also, if necessary.

This method is perhaps best distinguished from others by its simplicity and the more direct application of control to the action of the great patella muscle, the contraction of which determines, provided the leg be kept straight, the degree of separation of the fragments. Also by the ease with which the coaptation splints may be tightened by means of the buckle straps about them, and thus steadily prevent the opportunity which diminished swelling and atrophy otherwise furnish the muscle to contract within a loosening apparatus.

The apparatus, after being worn for four or five weeks or more in bed, according to the nature of the case, is then equally suited to movement about on crutches, and from its lightness is especially well suited to this. After a time, four weeks or more, the coaptation splints may be omitted and the ham-splint alone retained. The latter admits, if not too tightly bandaged, of a slight degree of motion, and the first step in overcoming the joint adhesions is thus safely begun. I have had a patient, thus treated after a muscular action fracture, able to walk well without apparatus at the end of nine weeks. A scarcely perceptible fragment separation was present. It is always advised, however, not to attempt too rapid recovery of the knee motion, and to postpone its complete return and unrestricted use even as long as a year.

A FEW CASES OF EPIDEMIC INFLUENZA PRESENTING STRANGE FEATURES.

By WILLIAM F. WRIGHT, M.D.,

NEW YORK.

During the month of January, in common with all the physicians of this city, I saw many cases of epidemic influenza, most of which presented only the ordinary features of the disease. Some, however, gave rise to symptoms so peculiar that I have thought them worthy of note.

One day I was asked to call, with no delay, upon a young woman whose family were well known to me. I found her suffering from severe pain in the uterus and ovaries, attended with a menorrhagia so severe that she and her mother were much alarmed. I was puzzled. My patient was twenty years of age, unmarried, had never had any uterine trouble, and the week before had passed through her usual sickness, in the recurrence of which she had always been perfectly regular. I found she had a temperature of 102° F. Concluding that I had a peculiar form of "la grippe" to deal with, I quieted the fears of the young woman and her mother by assuring them that she would speedily be better.

I gave her at once gr. xv. antipyrine, and ordered every two hours a capsule containing quin. sulph., gr. ij.; ext. belladon., gr. ½; aq. ext. ergotæ, gr. ij.

When I saw her some four hours later she was free from pain, but still had a slight flow, such as during her ordinary menstrual periods. She was, however, suffering from a diarrhœa, which occasioned her considerable alarm, and a feeling of tightness about the chest attended with a spasmodic cough.

I stopped the ergot, but continued the quinine and extract of belladonna, with a mixture of morphia, chloroform, spts. camphor, and arom. spts. ammon., and 10 grains antipyrine every four hours. From this time on the case followed the usual course of the disease. In three days she was perfectly well.

Soon after I was called to see two women, in the last month of pregnancy. Each considered herself in labor, and I so thought. In each uterine pains were well marked, and examination of each revealed the os somewhat dilated. A sanguineous discharge was present, and the head could be felt through the membranes.

While I was wondering how I could attend both, and knowing it was impossible for me to do so, as they lived at a distance from each other, and was trying to decide which had the stronger claim upon my personal services, my attention was drawn to the fact that the woman I then was with had a considerable rise of temperature. Making use of my thermometer I found it recorded 102° F. Giving her xv. grains antipyrine, I returned to the one I had first seen.

During my absence everything had been prepared for the labor I had assured her was already begun. The nurse having arrived, was asserting her autocratic sway, and had many fears to express regarding the future of an eight-months child. In this case I found a temperature of 102° F. also, and gave xv. grains of antipyrine. There were no more symptoms of labor in either case.

Each passed through the usual course of influenza, recovered entirely on the third day, and, a month later, at the expiration of the full term of pregnancy. I delivered both of healthy children.

The same day I was called to see two gentlemen, one a prominent artist, nearly seventy years of age, whom I found with a temperature of 103° F., attended with pain in different parts of the body, and with, what annoyed him most, a feeling of soreness along the urethra and pain in one testicle, which had already begun to swell. There was also a slight urethral discharge, such as is seen with alkaline urine. His urine was normal. Under what had become with me quite a routine treatment of "la grippe" he improved rapidly. The soreness of, and discharge from, the urethra disappeared in a few hours. But the testicle remained swollen and painful for several days. The other gentleman was a well-known public lecturer. It was late at night when I reached him. I found him sitting on the edge of his bed suffering from a dyspnœa which alarmed not only himself but his friends, who in their efforts to relieve him had well irritated his neck and chest with mustard. He also had the usual rise of temperature of 102° F. No symptom other than the sudden attack of dyspnœa had attracted his attention. Under a single dose of antipyrine, with full doses of belladonna and spirits of camphor, repeated every two hours, his dyspnœa disappeared entirely. The following day he felt quite well, but his voice was gone, a matter of much importance to him, as he had an engagement to speak that evening. Under energetic treatment, carried out through the day, he was able to appear that evening and speak with his usual strength of voice. There was never any return of the dyspnœa.

I also saw some cases in which irritability of the bladder was the most prominent symptom; others in which a gastro-enteritis alone attracted attention. In the case of an old lady, in whose family three were sick at the time with the prevailing epidemic, a sudden attack of heart-failure, attended with no other symptom, and from which she fully recovered, although ninety years of age, may have been due to the active cause of the epidemic, although I thought not.

55 West Tenth Street.

Enforcing the Notification of Disease.—The town council of South Bethlehem, Pa., recently notified the physicians in the place that unless they reported promptly all cases of contagious disease the statutory fine of $30 for every case would be rigidly enforced. This action was due to the fact that several cases of scarlet fever, which had not been reported, had come to the notice of the health authorities, who made complaint to the council.

Progress of Medical Science.

Idiopathic Pericystitis.—Dr. Joseph Englisch, of the Rudolf Hospital in Vienna, says the cavum præperitoneale Retzii is the space into which the bladder ascends as it fills. Opinion differs as to the constitution of its wall. Some think that the lower portion of the straight abdominal muscles at the back are without a special covering, and that the ascending bladder comes into immediate contact with the muscles; others assert that this part of the muscle has also a sheath. The latter view is held by Englisch. The diseases of the cavum peritoneale Retzii are chiefly of an inflammatory nature, being either acute or chronic. Englisch classifies them thus: 1. Idiopathic, when no cause can be assigned, though infection may be possible. 2. Traumatic, the result of external injury. 3. Metastatic, after infectious diseases of other organs. 4. Consecutive, being the development of diseases of adjacent organs. Englisch finds records of only 23 cases of idiopathic inflammation, 18 being cases of males. The age at which this disease mostly occurs seems to lie between eight and thirty. He inclines to the opinion that an existing tuberculous constitution or habit predisposes to inflammation of the cellular tissue in the neighborhood of the bladder. Any disease of the urinary organs especially predisposes to inflammation. He agrees with Leufser in distinguishing two stages of the disease, viz., general symptoms and the tumor. The symptoms of the first stage are pain, sickness, uneasiness, loss of appetite, vomiting, and constipation. The tumor may be observed already on the second day, or only after some months. It develops from below upward, and may reach the height of the navel. It may be sharply defined or not, and in the former case it may be symmetrical or unsymmetrical with the median line. The symmetrical tumor assumes the shape of the filled bladder, but generally the tumor is unsymmetrical. Bimanual examination best determines the shape. The consistency of the tumor is at first doughy, and later on hard, and when suppuration begins there is partial softening. The surface is lumpy as long as the abdominal wall remains intact. A peculiar feature is that no decrease (or only a very slight one) of the tumor is caused by catheterism. Examination from the rectum is indispensable. The passing of urine is but little interfered with, and may even be normal; in only a few cases is there ischuria. The urine itself is normal, or undergoes little change, at any rate at the commencement of the disease. In every case, except one, fever set in, generally together with the first symptoms, but sometimes sooner, sometimes later. There may or may not be collapse. The tumor burst in 6 of the 23 cases, became hardened in 2 cases, and showed suppuration in 15 cases. Hardening in the neighborhood of the ureter causes engorgement of the kidneys. The pus usually discharges outward, but possibly into the rectum, vagina, urethra, peritoneal cavity, or other places, *e.g.*, the front of the thigh.

Idiopathic inflammation of the cavum Retzii may be mistaken for peritonitis, enteralgia, cystitis, local peritonitis, retentio urinæ, calculus vesicæ, extra uterine pregnancy, neoplasms, adhesion of the bladder, and inflammation of the abdominal muscles. Englisch then goes into the differential diagnosis.

The prognosis is favorable; in only 3 cases death occurred through perforation. The treatment is symptomatic: application of cold, later of moist warmth, rubbing with unguentum hydrargyri, unguentum iodatum; in case of suppuration, opening of the tumor, with the incision as in sectio alta; and in spontaneous discharge, proper antiseptic treatment.

Englisch divides traumatic inflammation into two groups, the first of which comprises those affections of the cavum Retzii which occur only through extravasation of blood in consequence of an external injury; the second group comprises the genuine traumatic inflammations of the cellular tissue. Of the first group he has found records of but 5 cases, of the second only 8 cases. In the first group there were 3 deaths, and in the second 1 death.

Of metastatic inflammation only 3 cases were observed, all occurring after typhoid fever. In all 3 cases the symptoms of inflammation of the cellular tissue of the cavum Retzii appeared only in the second period of the fever. One case recovered with suppuration, another without suppuration, and in the third case death occurred through perforation into the abdominal cavity.

Consecutive inflammation is the most common form. It originates in diseases of the urinary organs, of the genital organs, and of the other organs of the wall of the pelvis. The worst cases observed were those which occurred after gonorrhœa. In consecutive inflammation the urinary difficulties are more considerable than in other forms of inflammation. Englisch says: "It seems perfectly allowable to assume that there is some agent that can affect the cellular tissue of the cavum Retzii alone, and produces the circumscribed form of inflammation of the cellular tissue. If the agent affects the bladder, at the same time there occur those complications that are connected with inflammation of the bladder, the degree of which is determined by the extent to which the mucous membrane of the bladder is affected. Of what nature this agent is cannot be determined as yet, but the process agrees with that observed in other infectious diseases. We have, therefore, to deal here with an infectious disease, as Leufser has already indicated." In conclusion, Englisch gives eleven cases out of his own practice, and tables of the other cases recorded in the literature of the subject.—*The London Medical Recorder*, January 20, 1890.

The Bacteriology of Whooping-Cough.—At the third general meeting of Russian Medical Men at St. Petersburg, Professor Afanasieff read an able and exhaustive bacteriological essay on the subject of pertussis. A summary of this author's conclusions has already appeared in these columns. At the suggestion of Professor Afanasieff, who was anxious to verify his results, Dr. Semtchenko took up the line to further investigate the matter, especially in clinical regards. The conclusions arrived at by the Kazan pædiatrist may be given thus: 1. Afanasieff's bacterium is actually specific and, hence, fully entitled to bear the name of the bacillus tussis convulsivæ. 2. The micro-organism makes its appearance in the sputum during the catarrhal stage, somewhere about the fourth day of the disease, but possibly still earlier. 3. Subsequently its numerical strength increases, the intensity of paroxysms keeping pace with the increase. 4. The microbes disappear from the discharge, apparently somewhat before a complete cessation of whoops (about the time when the number of paroxysms sinks down to four or two per day). 5. As soon as pertussis becomes complicated with catarrhal pneumonia the bacilli in the patient's sputa show an enormous increase in number. 6. Altogether the pertussis pneumonia seems to be quite different from other varieties of pulmonary inflammation. 7. The bacillus tussis convulsivæ presents a great importance not only in etiological and diagnostic, but also in prognostic regards. 8. As to the behavior of the microbe toward antiseptic agents, its vitality is destroyed as soon as the medium (jelly) contains corrosive sublimate in the proportion of 1 to 60,000, or resorcin in that of 1 to 1,200, or phenol in the same one, or hydrochlorate of quinine in that of 1 to 800. Drs. Afanasieff's and Semtchenko's researches were repeated (at least partially) by Professor Tschamer (*Wiener med. Wochensch.*, No. 17, 1888) and Dr. E. C. Wendt, of New York (*Medical News*, June 2, 1888). On the whole, both of the authors confirmed the statements made by the Russian observers. Dr. Wendt, however, differs from Dr. Semtchenko in some more or less subordinate points. Thus, he could not detect the presence of the bacilli in earlier stages of

the affection; neither was he able to notice any co-relation between the number of paroxysms and that of the bacteria in the patient's sputa; while, on the other hand, he found still the bacilli in the discharge, even after a complete disappearance of whoops. In conclusion, Professor Afanasieff draws attention to the several points which demand further elaborate investigations. It is necessary, he says—1, to more closely examine the distribution of the microbes in the respiratory mucous membrane, as well as in bronchopneumonic foci; 2, to study the behavior of the bacterium toward various coloring matters (in order to discover a characteristic differential test for the bacillus); 3, to study the spore-formation (which is important, especially in prophylactic regards); 4, to most carefully inquire into a clinical bacteriology of the pertussis sputa, from the beginning to the end of the attack, and even during convalescence (which is important for diagnostic, prognostic, and prophylactic purposes); and 5, to further study the behavior of the bacillus toward all possible parasiticide agents (to possibly discover some specific bactericidal substances, which discovery would prove of untold value in regard to the therapeutics of the infantile scourge in question).—*The London Medical Recorder.*

Practical Points in the Performance of Nephrolithotomy.—At the conclusion of a recent address on the subject of Nephrolithotomy (*The British Medical Journal*, January 18, 1890), Dr. Jacobson gives these directions: I. To count the ribs. That this is not an unimportant detail is proved by the fact that Professor Dumreicher, of Vienna, accidentally opened the pleural cavity in an attempt to remove a pyelonephrotic calculous kidney. Post mortem, the last rib was found to be rudimentary, and the pleura projected a good deal below the lower edge of the eleventh rib. II. To make a sufficiently free incision, especially in a stout patient, and a deep loin. Additional room may be gained by converting the usual lumbar incision into a **T**-shaped one, or by making use of Konig's incision, in which the muscles are cut through as far as the rectus, and the peritoneum pushed forward. A small stone in a kidney will always be liable to be overlooked, but a surgeon does not give his patient or himself a fair chance who is content with exposing the kidney through a limited incision, and then trusting to punctures with a needle. III. To pack away with sponges the colon, which is often troublesomely distended with flatus in these cases. IV. If the stone cannot be felt either in the pelvis or after palpation of the posterior and anterior surfaces of the kidney, this should be drawn up and out of the wound as far as possible, and again examined, a careful watch being kept upon the pulse. V. In puncturing the kidney, to try, as far as possible, to open the calyces systematically. VI. If palpation and acupuncture fail to find a stone, the kidney should be carefully opened and sounded. I will recur to the subject of hemorrhage shortly, and take first the best site of opening the kidney. Hitherto, in five doubtful cases, I have incised near the pelvis, as the viscus is thinner here, and as the surgeon can better reach the calyces. Mr. Jordan Lloyd, however, recommends the following method of exploring the interior of a normal kidney: "When the kidney is exposed through a lumbar wound I puncture its lower end with a long-bladed tenotome in a direction upward and inward, making for the lowest of the calyces. If the surgeon is observant and his knife is keen he will readily appreciate the moment when a cavity is struck by the altered resistance offered to the puncturing instrument. . . . It is important, because a tenotome may be pushed up to its handle in a normal kidney without tapping its interior cavity, having travelled along the kidney substance rather than through it. Into this opening I pass a child's bladder sound, and systematically explore the whole of the pelvis." It is advised that the blade should be not more than one-third of an inch in length, a stem of about seven inches, and the size of a No. 3 English catheter. It should be passed at once to the top of the kidney cavity, a distance of nearly four inches, and the exploration should be carried out systematically from above downward, the point being rotated in all directions, so as to investigate both tubes and calyces as the instrument is withdrawn. In this manner Mr. Jordan Lloyd has succeeded in finding a calculus, after needling and palpation had been assiduously tried with negative results. VII. Hemorrhage from an incision into the kidney is certainly arrested by firm, careful plugging with strips of sal alembroth gauze. On the five occasions on which I have used this plan I have removed the strips the next day with the aid of a few minutes' anæsthetic, gas sufficing for this. It is said that this plugging may cause vomiting. This did not occur in any of my cases. It ceases on the removal of the plugs. Care must be taken that the plugging is thoroughly done. If inadequate it will have to be repeated in a few hours—perhaps more than once—thus leading to exhaustion and setting up cellulitis, which may of itself be fatal, owing to the important relations of the kidney. VIII. Sources of difficulty in removing the stone. The chief of these are: 1. A very mobile kidney, which gets away deep in the wound; 2, a stone situated on the anterior surface and near the entrance of the vessels; 3, a small stone in a sacculated kidney, the stone falling into one of the sacculi, and thus being hard to find. IX. Multiple calculus in a suppurating, damaged kidney. If the question of nephrectomy arise this step should, as a rule, be deferred, and the kidney thoroughly drained, for the following reasons: 1. Additional shock and loss of blood will be avoided. 2. The condition of the opposite kidney, very possibly calculous also, will be made clearer by waiting. 3. The bulk of the kidney will be lessened by drainage. 4. Though a source of discomfort (if an open sinus persist) it may still do some and important work. X. If the kidney has been much disturbed it should be stitched *in situ*.

The Surgeon and Sentiment.—Under this caption the *Boston Medical and Surgical Journal* recently discussed the ideal surgeon of the laity, with the surgeon of reality, as evinced through professional and private life. The *Journal* assumes that the former is: "A man of given determination without any of those delicate refinements which might lead him to drop the tear of pity over the sorrows of the trembling victims of his scientific power. Stern judgment should belong to him as much as valor to the soldier, justice to the jurist, or sensitiveness to the poet. As the warrior revels in warfare, the lawyer in litigation, the clergyman in theology, so the surgeon should rejoice in bloody, physical calamity; it should be the breath of his nostrils, his reason for existence." As a matter of fact, we believe, says *The Medical Age*, these ideas are confined chiefly to the vulgar, and even among such, are held in the main toward those members of the profession who are most charlatanistic and ignorant. We recall three so-called surgeons who perfectly fulfilled this ideal: one whose medical knowledge was obtained solely as a hospital steward in the regular army; one a man of mediocre medical education, by nature cruel, and who really delighted in the knife and in the sight of blood, and subsequently ended his days in an asylum; the third very like the preceding, and who, though oft boasting his nerve, and delight in operating, ultimately took his own life rather than submit to the knife that would have relieved him of an otherwise incurable malady.

The Doctor as a Dramatist.—A dramatic poem called "The Miser," written by Dr. S. Weir Mitchell, was recently successfully produced in Philadelphia. Dr. Mitchell has proved that a man may possess fine poetic and literary talent, and at the same time have a logical and scientific mind. We congratulate him upon his latest success; but hope sometime he may turn his talents to more cheerful themes than avarice, Satan, and death.

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TERTIARY SYPHILIS.

AN important contribution to the subject of the cause and frequency of tertiary syphilis was made in a discussion on this subject before the International Congress of Dermatology and Syphilis, held at Paris last summer. The presence of Neumann, Mauriac, Fournier, Leloir, and others gave especial authority and weight to the opinions expressed.

Professor Neumann stated that the efficient causes for producing tertiary syphilis were: 1, Insufficiency of treatment; 2, constitutional vices, such as tuberculosis; 3, all the causes of impaired nutrition.

Mauriac stated that tertiary syphilis occurred in ten to twenty per cent. of cases, and less often in those not treated. The most frequent time of the appearance of the third stage symptoms was between the third and sixth year.

The most frequent tertiary accidents were those affecting the skin and mucous membranes; after this came syphilis of the nervous system. Other forms of visceral syphilis were much more rare.

M. Fournier based his very positive views upon a statistical study of two thousand six hundred cases observed in the city of Paris.

He states that the frequency of tertiary syphilis increases up to the third year, when it reaches its greatest height. From the fourth to the eleventh year it declines rapidly in frequency, and then more slowly, ceasing practically after the thirtieth year. Indeed, between the twenty-first and thirty-first year it is very rare. Fournier states, contrary to the usual opinion, that the nervous centres are more often affected than any other organic system. His figures are 1,085 cases of nervous syphilis, as against 787 cutaneous, and 612 mucous syphilides. Among 3,429 cases, there were 1,085, or about one-third, in which the nervous system was affected. Assuming that ten per cent. of all persons who contract syphilis develop tertiary symptoms, it follows that three or four per cent. of all who contract syphilis will suffer from complications affecting the nervous system. The brain is most often affected, and after this come degenerative affections of the spinal cord, such as locomotor ataxia

Dr. Haslund, of Copenhagen, agreed essentially with the other speakers as to the causes which are effective in leading to tertiary syphilis. He placed stress, however, upon alcoholism and malarial infection, and intolerance of the patient to the use of mercury.

Dr Vajda, of Vienna, stated that among 632 tertiaries, sixty-two per cent. had had no previous treatment, while thirty-eight per cent. had had mercurial treatment. The cases treated, also, were affected less severely. All the cases of tertiary syphilis suffered in their general nutrition, and weighed on an average ten kilograms less than healthy adults of their age and height.

The contributors to the discussion based their views largely upon hospital experience; and they failed to bring out one cause well recognized here, viz., that excessive mental strain tends to produce tertiary syphilis of the brain.

The facts contributed show, apparently, that syphilis of the nervous centres is more common than has been supposed, and very likely much more so than it used to be.

THE MIRROR SYSTEM IN INSANE ASYLUMS.

WAR rages between Norristown, Pa., and Utica, N. Y., or, to be more exact, between the gentlemen conducting the insane asylums of those respective towns. It seems that Dr. G. Alder Blumer, of Utica, not long ago published the following discovery and indictment in the *American Journal of Insanity*:

"At the State Asylum for the Insane at Norristown a system of reflecting mirrors for the constant observation of the wards has been adopted. An inspector is to be stationed in a small room in the attic, and, by an arrangement of mirrors and shafts, can have in view all of the building occupied by patients. While this scheme reflects credit upon our American ingenuity in adapting means to ends, it is scarcely creditable that in this age and generation such a system of espionage should be necessary in a civilized State like Pennsylvania. Can it be possible that honest and efficient supervisorship cannot be bought there for love or money? Must we have the methods of a Russian prison in an American hospital? Oh, shame upon us! It will be interesting to watch the outcome of this novel experiment as it affects the patients in the genesis of delusion."

To this Dr. Chase, of Norristown, replies in an open letter of denial, explanation, and defence. "It is true," he says, "that there is a system of supervision of the attendants and patients by ward inspectors. These are placed, not in an attic, but in the division wall, between the two wards of the second story. A communication has been established between the two stories; by the use of a tube and an arrangement of mirrors a comprehensive view of the wards below is obtained."

Dr. Chase asserts that his system has worked well, and has been warmly approved by those who have examined it, and he returns a declamatory Roland for Dr. Blumer's rhetorical Oliver. "Do not," he says, "the many abuses and accidents, not to speak of homicide, that have occurred at Utica, even since your advent, bear me out in my statement. 'Oh, shame upon us!' sure enough! . . . Men whose lives are passed in narrow confines often forget that the great world moves. It is difficult, they say, to surmount prejudice, to look, as it were, over asylum walls, especially if they be faced and capped with huge Corinthian pillars. But, as the oarsman says, 'Break away, break away, my boy!' from the rocks—the inflexible 'propositions'—on which your illustrious predecessor rested so long in shallow water."

We trust no hard feeling will be engendered at Norristown and Utica. Both have excellent asylums, but it must be admitted that the former place is more progressive, and we shall look for the gradual adoption of the mirror system at Utica.

STERILITAS VIRILIS.

Much attention has been paid, of late, to man as the factor in sterility. Usually if a married couple continue childless the fault is laid on the woman, and, as a rule, no doubt, this is correct. But abundant evidence has been obtained to show that man, who is not impotent in the sense of being able to have coitus, is yet the sterile one.

Dr. L. Casper, in a recent article read before the Berlin Society for Internal Medicine, discusses this subject in an interesting manner. There are, he says, two forms of sterilitas virilis, viz., aspermatism and azoöspermia.

To the former class belong those cases in which, though there is connection, there is no emission of semen. This may be due to—1, defect or closure of the ductus ejaculatorius; 2, inexcitability of the ejaculation centre; 3, loss of skin sensibility of the penis; 4, psychical influences.

Interference with the patency of the ductus ejaculatorius is caused by its obliteration or deviation posteriorly, urethral strictures, and phimosis. The second form, called atonic aspermatism, is due usually to excessive masturbation. The other forms are very rare.

Azoöspermia exists in conditions of cachexia and in absence or disease of the testicles. Casper believes that it is not very rare in tertiary syphilis, even when there is no local lesion of the generative organs. He cites the statistics of Liegois and Bryson, who, among twenty-one cases found azoöspermia five times.

The term "sterilitas virilis" is understood not to include impotence, but only those cases in which connection is still possible. It is evident, however, that Casper has not included all its forms. There is a third, known as misemission, which is characterized by a failure to deposit spermatozoa in the upper part of the vaginal tract.

This last form results from hypospadias and other deformities of the penis, or from inflammations or fistulous openings in the canal.

The treatment of sterilitas virilis necessarily varies greatly. Surgical procedures are usually indicated in aspermatism, while anti-syphilitic or tonic treatment is indicated in azoöspermia. In the anæsthetic form, Curling reports a case relieved by the local application of a certain cantharidis to the gland. In misemission, aside from surgical measures, "homoculture" by means of a syringe has been tried, somewhat disastrously. Of late, however, it has been recommended again.

THE BOGUS RUTLAND MEDICAL COLLEGE.

The recent decision of Judge Powers, of Vermont, denying that the so-called Rutland Medical College had authority to confer diplomas, brought up some interesting legal questions. The case was the result of the petition of Mary J. Townsend, of Rutland, for a mandamus to compel the censors of the Vermont State Eclectic Medical Society to give her a certificate for the practice of medicine in this State, under the diploma granted her by the Vermont Medical College of Rutland.

There is a general law in Vermont providing for the organization of corporations by voluntary association, for the purpose of establishing and maintaining "scientific, charitable, and benevolent institutions and such societies as have for their object the promotion of moral, intellectual, and spiritual development." The practical question was whether that statute was broad enough to cover the organization of a medical college, with full authority to issue diplomas.

In his decision Judge Powers decided that it was not.

The facts were that a certain Dr. Dutton, of Boston, and his wife, had taken advantage of this law and had organized a so-called college. No systematic instruction was given, however, and the institution was nothing but a diploma mill, pure and simple.

Fortunately, its activity was promptly and completely destroyed before much harm was done. We think that the medical profession of Vermont is entitled to much credit for having so quickly stamped out this pernicious organization.

THE NEGLECT OF ANATOMY IN THE SCHOOLS.

The examiner in anatomy of the North Carolina Board of Medical Examiners gives some striking facts with regard to the incomplete knowledge of this branch on the part of the applicants for medical degrees. In the past three years, 1887–88–89, there have been 147 persons who have applied for a license to practise medicine in North Carolina. Of these 106 succeeded, 41 failed. But of the whole number, 98, or about two-thirds, failed to answer seventy per cent. of the questions in anatomy.

The examiner in anatomy naturally deplores the fact that there is such a deficiency in this fundamental branch of medical knowledge, and he publishes the examination papers, which show that the questions asked were not severe or unreasonable.

It is quite possible that, with the large increase in the technicalities of medicine, there is now less relative stress laid upon a thorough knowledge of anatomy. The wide adoption of a progressive course of study by which students finish and lay aside anatomy in two years, is not without its evils. Two years' study is not long enough to fix anatomy firmly in the mind, and, at the end of the third or fourth year, the student graduates with much of it forgotten.

The Examining Board of North Carolina has done a service in calling attention to this apparent neglect of anatomy in our medical colleges.

RHINOLOGY AND OTOLOGY.

For some reason it has heretofore been the rule that the ophthalmologist should be the otologist, and that the care of the eye and the ear should go together. Whether this custom has been based upon chance, alliteration, physiological analogies, or anatomical propinquity we do not know; but it is certainly not a good one. Pathologically the ear and the nose and the throat are most closely united, and it is the laryngologist and rhinologist who should master ear diseases rather than the ophthalmologist. Dr. W. H. Daly, in a recent paper read before the Section on Laryngology, on the relation of naso-

pharyngeal disorders to deafness, puts the matter a little differently, for he asserts that the otologist ought to be a rhinologist, or what now seems to be the fashionable thing, an intra-nasal surgeon. He states with much positiveness that the modern otologist neglects the nose, or is incapable of properly treating it. Dr. Daly further affirmed that eighty per cent. of aural troubles were due to naso-pharyngeal disorders, while Dr. Bosworth put the percentage as high as ninety-five.

Dr. Roosa and Dr. Pomeroy, in the discussion of Dr. Daly's paper, vigorously repelled the insinuations made against the alleged intra-nasal agnosticism of the otologists, and cases were cited in which ear disease was produced by the excessive boring, sawing and burning of the nasal cavities by the rhinologist.

There was practical unanimity, however, on the point that rhinologists and otologists should work together, and perhaps this may be better than to have, as is proposed by some, the otological lamb swallowed by the rhinological lion.

A NEW USE FOR THE PHONOGRAPH IN MEDICINE.

When Edison's phonograph was first presented to the public in its improved form, it was thought that it might be turned to practical use in the teaching of physical diagnosis, but this has been found impractical, since it is not possible, without great trouble and the use of accessory apparatus to record the faint cardiac and respiratory sounds. Dr. Litchwitz, of Bordeaux, has suggested another use for the instrument, which would seem to be entirely practical and of real value. He proposes to employ it in otological examinations as a measure of the hearing power. It possesses the advantage over the crude method of listening to the ticking of a watch, that the element of unconscious deception can be entirely eliminated. The intensity of sound can be graduated to a nicety on different parts of the cylinder, and thus a definite scale may be made which will equal in its exactness and universality of application the visual tests employed by oculists the world over. It will be possible also to measure the degree of hearing in one ear without the confusion resulting from the sound being heard in the well ear, as may happen when the watch is employed.

A GOOD WORK FOR THE WEALTHY.

A charitable Englishman, whose name is not published, but who is said to be the Duke of Westminster, has just given half a million dollars for the establishment of a convalescent home for the poor of London. In this age of hospitals and dispensaries, when there are really more than there is any use for in most of the large cities, no more useful charity could be devised than this. The hospital, oftentimes, will not keep a patient who has recovered from a serious illness until his health is fully established and he is able to go to work again, yet the sending him back to his home exposes him to a relapse or some other trouble, and may cause the loss of a valuable life which a few more days of nursing might have saved. Why cannot some charitably disposed person here, who may be contemplating the foundation of a new hospital, or the rich endowment of one already in existence, be induced to dispose of his gift in some such way as this, and place his money where it will be of the greatest benefit to the poor whom he wishes to relieve? There is a convalescent home in this city; but as it has accommodations for a comparatively small number, and restricts its benefits to Protestants in religion, it can be understood that there is still room for another institution of the kind which will accommodate more and place no religious restrictions on its admissions.

AMERICAN DIPLOMAS ABROAD.

The following item has excited very wide attention. It contains a piece of alleged news cabled from Berlin:

"The two hundred American physicians matriculated at the University of Berlin are greatly agitated over the refusal of the German authorities to recognize their American diplomas, in the recently issued University calendar. While the medical degrees of all other nations are duly recorded, those conferred by institutions in the United States are entirely ignored. In explanation of the omission, a high official attached to the ministry of education to-day said: 'Your American colleges don't come up to our German standards, by any means, and are too various and miscellaneous in their character to claim recognition.' American physicians here are never addressed by their title, nor are their letters so inscribed, although there are in Berlin graduates of several of the leading American medical colleges." The telegram then goes on to say that "it is proposed by the ignored medicos to prepare a memorial to the authorities expressive of their astonishment and indignation at the treatment received."

There is evidently a great deal of exaggeration in the above statements. In the first place, there are not, and never have been, two hundred American physicians matriculated at the University of Berlin; and the further declaration that American physicians are never addressed by their title is absurd.

There are exaggerated ideas abroad, no doubt, as to the cheapness of American medical diplomas. The facts are that about one-half the three thousand five hundred doctors annually graduated in this country go out from large and well-equipped colleges in New York, Massachusetts, Pennsylvania, and the West. These men have studied well under good conditions, and deserve recognition as members of a learned profession.

It would be most unjust for foreign universities to condemn American medical diplomas as a whole, and it would be particularly impolitic for the Berlin University to do so just when efforts are being made to have a great International Congress under the auspices of the medical profession of Berlin.

CONGENITAL SMALLNESS OF THE ARTERIES.

One of the most wonderful processes of the human body is that by which each part is formed and moulded so as to occupy its proper place and space in the organism. In order to perfect health and usefulness of the whole, each part must bear its due relations and proportions to each other part, not absolutely or rigidly, but within certain narrow limits. If an important organ is insufficiently developed serious consequences generally result.

Cases are frequently observed *post mortem* in which the arterial system has not been developed in size to the extent which is proportional to the growth of the other organs. The question of interest to the practitioner is: What are the clinical phenomena which attend such a deformity? Virchow has declared that, in the case of girls, such deformity is frequently connected with chlorosis. But the same deformity is just as likely to affect men as women, yet men are very rarely, if ever, chlorotic. What, then, is the life-history and what are the disease-conditions of the men in whom this abnormality exists? This is a question which has as yet received but little attention. It is probable that the instances of this complaint are generally classified under the title of "organic disease of the heart" (although the heart is only secondarily affected), or of "kidney disease" (although the disease of the kidney is most likely only a consequence of the other).

Very interesting articles upon this subject have been published by Fraentzel (*Deutsche Med. Woch.*, July 19, 1888, p. 589), and more recently by Hanford (*Practitioner*, November, 1889), p. 321, on which the present remarks are based. Observation seems to show that children of both sexes may have arterial systems too small for their bodies. In some this results from tardy development of these parts and is not permanent, the arteries growing to a proper size after puberty. In others it is permanent, the arteries remaining throughout life too small for the body.

If the disproportion is very great, the patient is pale and weak from infancy; if it is only moderate, the patient will pass through infancy and childhood without marked symptoms, the heart having become sufficiently hypertrophied to counterbalance the narrowness of the arteries. When, however, the toil of active life begins, the deformity gradually makes itself felt. The heart is no longer equal to its unequal task, and its cavities become dilated and its walls weakened, the natural consequences of these changes ensuing.

The results of the deformity are, naturally, most serious in men who have severe labor to perform, while in women who do not exert themselves much, simple lassitude and debility are observed—they are chlorotic, the hypertrophy of the heart enabling that organ to meet ordinary demands upon it, but not being sufficient for any prolonged strain.

Fraentzel relates several cases in which grave disorder of the heart and inability to work resulted from this smallness of the arterial system, the patients being all of the male sex. In two of the cases the condition was made certain *post mortem*, in the others the diagnosis rested upon symptoms only. The history of the disease is about as follows: A young man, well built and without perceptible disorder of the heart, except, perhaps, occasional palpitation, and with no history of rheumatism or other serious disease, is examined for entrance to the army, and admitted as a healthy man. Soon, however, he falls into a general decline, being unable to endure protracted exertion. An examination now reveals incipient dilatation of a hypertrophied heart. The radial arteries are abnormally small and cordy, and the carotids and arteries of the limbs are small and tense. The heart-sounds are quite normal, excepting a slight increase in intensity of the second sound. The urine is clear, without sediment, and free from albumin. The patient is greatly improved by rest in bed, the strength returning, and the dilatation of the heart becoming less marked.

He now resumes his former labors, and for a time feels well. Soon the old trouble recurs with greater severity, and he returns to hospital with dilatation of the heart, dyspnœa, palpitations, œdema of the lower limbs, and dropsy of the lungs and pleura. The liver is greatly congested, and the urine exhibits slight quantities of albumin. The heart-valves still act normally. After gradual increase of all the symptoms death takes place.

Post mortem the valves are found to be normal, the coronary arteries unchanged. The heart is hypertrophied, and the ventricles are greatly dilated. The aorta is very small, so that it will hardly admit the little finger, and all of the other arteries are likewise small and thin-walled, the vessels nearest the heart exhibiting signs of degeneration (apparently from overstrain). The other organs are unaffected, save as a natural result of the diseased condition of the heart and arteries.

Fraentzel recalls two cases in which he made a diagnosis of disease of the heart from sudden overstrain; but, as the patients denied that they had been subjected to any sudden unusual strain, he would, in the light of his present knowledge, consider them as instances of the disease now under discussion. His experience with still other cases would lead one to believe that, if discovered in time and treated by prolonged rest, these conditions would not forbid the pursuit of a quiet profession in after-life.

One similar case, with autopsy, is related by Dr. Hanford.

The diagnosis of the disease under consideration rests on the hypertrophy of the heart, the smallness and tenseness of the arteries, the absence of history of sudden strain, the healthy condition of the heart-valves, the freedom of the kidneys from organic disease, and the peculiar history of the affection, as already given.

The treatment of most importance is absolute rest and a quiet after-life; other agents being employed according to the needs of each individual case.

THE MEDICAL PROFESSION OF TEXAS.

The wane of the medical profession of Texas is announced. In his presidential address, Dr. F. W. Johns, in resigning the chair at the last meeting of the West Texas District Medical Association, said:

"But if I read correctly the signs of the times, the strength and patronage, the power and influence of the regular profession of medicine among the people is on the wane; and should we fail to stand shoulder to shoulder—county, district, State, and nation—in the correction of the adverse conditions, the dissolution and downfall of your beloved organization is, at least, probable."

The editor of *Daniel's Texas Medical Journal* comments upon these words in a very serious spirit.

"For years," he says, "the Texas State Medical Association has petitioned the Texas Legislature, through committees of her ablest men, to enact a law to restrict the indiscriminate practice of medicine. In vain was it repeatedly pointed out that a large majority of the States of the Union had taken such steps; in vain were decisions of courts cited, declaring the constitutionality of

such laws and the competency of States to regulate the practice of medicine by statutory enactment. Every argument was exhausted in the endeavor to get even a modicum of justice in the way of such legislation."

The conclusion is that the profession of the State has never commanded the respect of the public, on account of the lack of character, ability, and sound education in a great number of its members.

We heartily sympathize in the hope expressed by our contemporary, that the fight for progress and reform be kept up; and we especially urge the continuance of the demand for an efficient State Board of Health, a Board of Medical Examiners, and a regulation of medical practice. The enactment of the desired laws has failed ignominiously in the past, but this should be no discouragement. Perhaps the Texas doctors have not quite learned the technique of getting their bills through a legislative body; let them study this, and not rely upon the justice of their case alone. For good wine needs a bush nowadays, particularly in the political arena. Texas is a great State and has many courageous and able men among the profession; let them keep up the good fight.

News of the Week.

The American Neurological Association will hold its next annual meeting in Philadelphia, on June 4, 5 and 6, 1890.

The Iowa State Medical Society will meet at Des Moines, April 16th, 17th, and 18th.

The Medical Society of the Mississippi Valley convenes at St. Joseph, Mo., March 20th and 21st.

The Nebraska State Medical Society meets at Beatrice on May 13th.

The Illinois State Medical Society will meet in Chicago, beginning May 6, 1890.

American Medical Association.—The forty-first annual session will be held in Nashville, Tenn., on Tuesday, Wednesday, Thursday, and Friday, May 20, 21, 22, and 23, commencing on Tuesday at 11 A.M. The addresses will be given on "General Medicine," by Dr. N. S. Davis, Chicago, Ill.; "General Surgery," by Dr. Samuel Logan, New Orleans, La.; "State Medicine," by Dr. Alfred L. Carroll, New York, N. Y.

A Trip to Europe for the Tenth International Medical Congress.—Dr. Robert Newman has published a useful schedule of information regarding the trip to Europe for the purpose of attending the Tenth International Medical Congress. A trip to Europe, from New York to Rotterdam, and return, can be made for $110, first cabin, by the Royal Netherlands and United States Mail Line. The railroad fare, second class, to Berlin is $10.50. The days of sailing are Thursdays or Saturdays, in June and July.

A Hospital in Kearney.—An effort is now being made to establish a small hospital in Kearney, Neb., and the young ladies of the town are actively engaged in raising the necessary funds.

An Apparatus which will Enable Deaf Persons to Hear Public Speakers.—Dr. Francis H. Brown, of Boston, publishes, in the *Boston Medical and Surgical Journal*, the description of an apparatus for the purpose above indicated: "It consists of a trumpet-shaped tin sound-receiver, having an opening superiorly of six inches, and narrowing inferiorly to a diameter of one inch. Its upper end is curved, so that the opening of the trumpet is directed toward the mouth of the speaker. The sound-receiver stands on the desk or pulpit, and is partially concealed by a gas-fixture. At its lower end it fits into the opening of a common tin speaking-tube, which passes down, through and under the floor, to the seat of the lady in the audience; at that point the tube ends in a piece of brass pipe, rising some four inches above the seat, over which the person using it places the bell-shaped end of the flexible conversation-tube now very commonly employed by the deaf." Dr. Brown states that an apparatus like the above was devised by Dr. C. J. Blake several years ago. If we mistake not, some of the churches of this city have had such an apparatus in them for a long time.

The Detective Reporter as a Dispensary Patient.—The scheme of sending a reporter to a dispensary or hospital and letting him or her act the part of a patient and spy is becoming a popular means of making a sensation. Lately a female reporter recounted in a daily paper her experiences at a clinic for diseases of the eye. She was evidently carefully examined and intelligently prescribed for. In return, she publishes criticisms and woodcuts of the physicians and the dispensary, which are as severe as the circumstances would allow. As a matter of fact the only fault really discovered was that some of the physicians came late, and allowed themselves to converse a little instead of attending promptly to the reporter's wants.

The curious spectacle is presented just now, in this city, of a probably insane man, recently discharged from the Ward's Island Asylum, who is busily engaged in trying to secure by legal measures the discharge of a number of lunatics now confined in the asylum.

A New General Hospital has recently been incorporated in this city, called St. Mark's Hospital. The certificate of incorporation says that "the members of said corporation shall adhere to the theory of medical or surgical treatment known as the regular school, and the system of practice of medicine or treatment which shall be applied in said hospital shall be such as is used by regular practitioners and known as the regular-school system."

Dr. Renssalaer Jewett, of this city, died on March 7th, aged seventy-three years. He graduated from the Albany Medical College in 1844.

Sea-sickness.—Dr. J. J. Seiser, of Helena, Mon., writes that in crossing the ocean, several years since, he made some observations which seemed to him to prove that the cause of sea-sickness resides in inefficient breathing. He offered an article on that subject to a London medical journal, but it never saw print. He also asked several steamship companies for permission to experiment with oxygen on board, but was refused. If he is correct in his theory, he asserts, inhalation of oxygen gas should be efficacious in relieving sea-sickness by curing the carbonic acid poisoning, and he says that he would be glad to hear of some one experimenting with it in order to prove or disprove the theory.

Women may be Doctors but not Lawyers.—The Belgian Parliament has decided to admit females to the full practice of medicine and pharmacy, but to exclude them from the legal profession.

The Association of American Physicians holds its fifth annual meeting in Washington, May 20, 21, and 22, 1890. The following preliminary programme is announced: Discussion on "Disturbances of Sleep," by Drs. S. Weir Mitchell and Charles F. Folsom; "Methods of Diagnosis in Diseases of the Stomach," by Francis P. Kinnicutt. Papers: "Inflammations of the Appendix and Cæcum, and the Duty of the Physician regarding them," by Norman Bridge; "Anæsthetic and Non-anæsthetic Hysteria," by Charles L. Dana; "Seizures Characterized by Shock and Loss of Consciousness," by Israel T. Dana; "The Diathetic Causes of Renal Inadequacy," by I. N. Danforth; "Certain Points Relating to Tricuspid Endocarditis, with Specimens," by William W. Gannett; "Antisepsis in Midwifery," by William T. Lusk; "Varicose Aneurism of the Arch of the Aorta," by William Pepper and J. P. C. Griffith; "Natural History of Typhoid Fever," by James E. Reeves; "What Can and Should be Done to Limit the Prevalence of Tuberculosis in Man?" by Edward O. Shakespeare; "Migraine," by Wharton Sinkler; "Etiology of Pleurisy, Especially in its Relation to Tuberculosis," by A. A. Smith; "Report of Cases of Angio-neurotic Œdema," by Samuel B. Ward; "Demonstration of Pathological Specimens," by W. T. Councilman.

Tight Lacing in Monkeys.—In order to test the injurious effects of tight lacing on the respiration, Dr. Lauder Brunton, while in India, made a number of experiments on female monkeys, for the simple reason, as Dr. Brunton ingenuously explains, that they are more like women than dogs are. A monkey was enveloped in a plaster-of-Paris jacket to imitate stays, and a tight bandage was then tied round the abdomen, so as to imitate the band which would sustain the petticoats. They were then given chloroform. The result of the experiments is reported to have been "very marked indeed," so much so that several of the monkeys died very quickly. Dr. Brunton added that the survival of some of the animals experimented upon was probably due to the fact that the diaphragm is able to compensate to a large extent for the enforced loss of chest movement.

The Dixie Doctor is the title of a new monthly medical journal edited by Dr. T. H. Huzza, and published at Atlanta, Ga.

Curing Sterility by Law.—A bill has been introduced in the French Chambers providing, as a remedy for the decline of population, for a tax on all bachelors—an old remedy—and in addition to this, an entirely new remedy, in the shape of a tax on all married people who have no children, and are unable to offer any reasonable excuse for not having any. A recent census of Fifth Avenue, New York, showed an average of about half a child to a family.

The American Climatological Association will meet this year at Denver, Col., September 2d, 3d, and 4th. A number of complimentary excursions will be tendered the visitors, and it is expected that low rates for the trip will be secured.

The Faith-Cure People Give it up.—The faith-cure people have yielded, and will in future call a doctor when their friends are sick, as the law requires. At least so a committee of four, who called upon Coroner Rooney, of Brooklyn, announced. Their spokesman, after saluting the Coroner, delivered the following oration: "We are a committee of the people who worship in Temperance Hall, on Hamilton Avenue. Our people have been considering carefully the action of the authorities toward us. Last night we decided to ask God what we should do. We prayed long and hard. We asked for light. At last we saw the light, and now we have come to say that you are right and we are wrong. Hereafter when we are sick, we will call a doctor, as you and the law direct."

The Alumni Dinner of the Long Island College Hospital, Brooklyn, N. Y.—The twelfth annual dinner of the alumni of the Long Island College Hospital was given at Remsen Hall, Brooklyn, Wednesday evening last. The Vice-President, Dr. Paul H. Kretzschmar, presided, and was toast-master. Speeches were made by Drs. Alexander Hutchins, J. H. Raymond, A. L. Gihon, United States Navy, and George F. Shrady. The graduating class was present and comprised in its number two negroes and a Chinaman.

The State Care of the Insane.—The bill advocating the state care of the insane, as against county care, was discussed before the committee of the Assembly on Wednesday. Professor Chandler, of Columbia College, spoke for the bill, representing the State Charities Aid Association. He said it divided the State in as many asylum districts as there are State insane asylums. Inexpensive detached buildings of moderate size are to be erected on grounds of existing asylums, to accommodate pauper insane now in poorhouses. The total cost of these buildings and furnishings shall not exceed $5.50 per capita. Poorhouse keepers are wholly ignorant of the needs of the insane. For the salaries now paid, persons competent for such work cannot be obtained. The medical attendance in poorhouses is often let out to the lowest bidder, and often to incompetent doctors. Then, too, the care of the insane is often given to raw graduates of medical colleges. The treatment of the insane in a poorhouse is a centu y behind the times. Supervision under one management is much less expensive than the county plan, and patients can be classified, well cared for, and made the subject of proper treatment in State asylums. There were, of course, present the advocates of the county system, who pleaded for cheapness and advanced the absurd proposition that the insane were better cared for in the county institutions than in the State asylums. Bosh! Separate politics and county poorhouse interests from the measure, and the State care of the insane could not reasonably have a dissenting voice. The profession of the State owes it to humanity that the bill should pass, and every medical man composing it should use his best endeavor to that end. Poorhouses for the insane instead of hospitals! For shame!

Whooping-Cough.—A two per cent. watery solution of resorcin sprayed into the nose, throat, and larynx every two hours is a remarkably efficient agent in the treatment of whooping-cough, according to Dr. J. W. Farlow, of Boston.

The Pennsylvania State Veterinary Medical Association held its annual meeting in Philadelphia, on March 4th. Twenty-two new members were received, and the meeting was the largest and most interesting ever held. The following papers were read: "Contracted Feet," by Dr. Rush S. Huidekoper; "Parturient Apoplexy," by Dr. W. H. Ridge; "Is Cribbing a Disease?" by Dr. I. Michener; "Indigestion in Horse, Cow, and Dog," by Professor W. L. Zuill. The election of officers was held with the following result: W. S. Kooker, of Philadelphia, *President;* T. B. Raynor, of Chestnut Hill, J. Curtis, of Bucks County, N. Rechterwald, of Pittsburg, *Vice-Presidents;* S. J. J. Harger, *Recording Secretary;* Robert Gladfelter, *Corresponding Secretary;* Dr. John R. Hart, *Treasurer.*

Skimmed Milk in Philadelphia.—According to the chief inspector of milk of the Board of Health of Philadelphia, there is no law preventing the sale of skimmed milk as whole milk. There is a State law against such substitution, but for some reason the city of Philadelphia was, at the time of its passage, especially exempted from its operations.

Under the Head of "Hydrophobia Cured" an Ohio paper describes the case of a boy, when two and a half years old, bitten by a rabid (?) dog, and suffering from hydrophobia eight years later. The objections to this story are that the period of incubation of hydrophobia averages only seventy-two days and never eight years; and that hydrophobia is invariably fatal.

An International Congress on Alcoholism will be held at Christiania, from September 3d to 5th of the present year. The programme promises to be an interesting one, including as it does the following subjects: (1) The means which have proved so successful in Norway in lessening the evils of alcoholism; (2) the results of the Gothenburg System; (3) the alcohol question in relation to the upbringing of the young; (4) the deterioration of indigenous tribes by the spirit trade; (5) substitutes for alcoholic beverages as weapons in the warfare against alcoholism.

A Parasitic Fœtus.—One of those singular malformations described as "parasitic fœtus" has been attracting some attention at Demerara. A coolie was admitted into the Colonial Hospital suffering from a tumor in the right loin. The man died, and at the post-mortem examination the "tumor" proved to be possessed of a cranium, with hair attached, an imperfect nose and mouth, no hands or feet, but the rudiments of male genitals. The subject of this "autosite" was thirty-two years of age.

Transportation of Corpses.—Only a short time ago a child died of diphtheria in Ravenwood, Ill. The body was removed to Zanesville, O., where, doubtless, sympathizing friends and others "viewed the remains." As a result an epidemic of diphtheria broke out, with five deaths of children at last accounts. In this case there is some question as to who is to bear the blame, it being alleged on one hand that the doctor gave a false certificate, and on the other that the certificate showed the cause of death to be diphtheria; but the railroad company took the responsibility.

Physiology in the Schools.—The New Jersey Legislature has passed a bill requiring the teaching of physiology and hygiene in the public schools, special reference to be made to the effect of alcohol on the human system. Certainly a very complicated study for children.

Prosecuted for Vivisection.—Dr. B. T. Shimwell, of Philadelphia, was called to trial by the Woman's Branch of the Society for the Prevention of Cruelty to Animals, on a charge of needless cruelty to animals. His offence consisted in experimenting upon a dog in order to illustrate a new method of intestinal resection. The hearing took place on March 4th, and the accused was discharged by the magistrate without calling in any of his witnesses, the judge holding that the prosecution had failed to make out any case against Dr. Shimwell.

The Health Board and the Coroner.—There is a quarrel in San Francisco between the Board of Health and the Coroner, because the former granted a permit for burial in a case of death without medical attendance. The Coroner has obtained the arrest of the Health Officer, and a rather stormy time is anticipated.

The Commencement Season has now begun, and, from the reports we have received, there seems to be no falling off in the number of newly made doctors. Ten towns, with seventeen medical schools, report five hundred and eighty-three graduates.

Unsanitary Jails.—The daily papers report that the jails in Marion County, Ind., and in Kansas City, are in a filthy and dangerous condition, and, in the case of the former, complaint has been made to the United States Attorney-General, since United States prisoners are confined there. The Kansas City jail is said to equal any in Russia as regards small cells, absence of ventilation, and filth.

The Corner-stone of the Pennsylvania Hospital was recently uncovered, and the inscription was found well preserved in clear and sharply-cut letters. It read as follows:

IN THE YEAR OF CHRIST
MDCCLV
GEORGE THE SECOND HAPPILY REIGNING
(FOR HE SOUGHT THE HAPPINESS OF HIS PEOPLE)
PHILADELPHIA FLOURISHING
THIS BUILDING
BY THE BOUNTY OF THE GOVERNMENT
AND OF MANY PRIVATE PEOPLE
WAS PIOUSLY FOUNDED
FOR THE RELIEF OF THE SICK AND MISERABLE
MAY THE GOD OF MERCY
BLESS THE UNDERTAKING

A Small Child.—Mason City, W. Va., is proud in the possession of a new-born infant which weighed at its birth one pound.

A New Form of Swindle.—A lady under the care of a Louisville physician not long since received a call from a man who said that he was a collector, and presented a bill of $500 from the doctor. He said that his employer would be glad of a part payment on account, if it was not convenient to settle in full, as he had some notes to meet and was a little hard put for cash. The lady was, however, bright enough not to be taken in, and said she would see the doctor and pay him herself on the following day. The physician was surprised to learn of his bill, as he was still treating the patient, and had not as yet made out his account.

Society Reports.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 27, 1889.

WILLIAM P. NORTHRUP, M.D., PRESIDENT, IN THE CHAIR.

Hemorrhage in and about the Supra-renal Gland.—DR. T. M. PRUDDEN presented a specimen of "Hemorrhage in and about the Right Supra-renal Gland in a Newborn Child."

There was no special incident in the delivery of the male child, which, with much difficulty, was made to breathe at first, and continued to breathe badly and poorly perform its general functions until its death on the fifth day.

The abdominal cavity was filled with dark fluid blood or bloody serum, and a large and old clot lay over the region of the right supra-renal gland. Both kidneys and the remaining abdominal viscera appeared normal, save that closely surrounding the right supra-renal gland was a dense, firm, ovoidal blood-clot, about 4 ctm. long, 3 ctm. wide, and 2.5 ctm. thick. The supra-renal gland was itself apparently unchanged, save by pressure, and a considerable infiltration in several places with blood.

Hemorrhage in and about the supra-renal gland is of rare occurrence in adults, but is not very infrequent in the new-born; it is most apt to be one-sided.

As to the cause of these hemorrhages, while they have in the various hitherto described cases been associated with the hemorrhagic diathesis, with leukæmia, with disturbances of the venus circulation, with fatty degeneration and inflammation of the walls of the blood-vessels, and with Addison's disease, our actual knowledge of the causes is actually very meagre.

THE PRESIDENT remembered seeing a case in a child where one supra-renal capsule showed hemorrhages with quite extensive destruction of the gland-tissue. In this case hematoidin crystals were found. A dirty color of the skin attracted attention before death.

Coccidium Oviforme.—DR. FREEMAN presented some specimens and a paper on "Coccidium Oviforme (Psorospermiæ)."

This protozoon, which is parasitic of animals, is of interest because it is very common in rabbits, forming nodules, most often in the liver, sometimes in other organs which may be mistaken for tubercles; also because it can produce the same lesion in man and may cause death. The liver is by far the most frequent organ invaded.

In the liver of the rabbit these nodules occur mostly in the neighborhood of the gall-bladder; they vary in diameter from microscopic to two or three centimetres. A section through a nodule shows under the microscope a cavity surrounded by connective tissue and lined by spores or psorospermial and by more or less distorted columnar epithelium. From the walls many irregular projections extend into the cavity; these consist of a connective-tissue framework supporting a large number of spores. Detritus and coccidia lie free in the cavity. The coccidium is an oval shaped body surrounded by a thick membrane and containing a coarsely granular substance, sometimes distributed throughout its interior, sometimes confined to a spherical ball. For the most part the walls of the cavities are lined with spores piled on each other; between these and the connective tissue one can see sometimes nucleated epithelial cells; more rarely is the wall lined with apparently normal columnar epithelium. The coccidia are also found in the bile-passages and gall-bladder.

The question of the real significance of these nodules caused much speculation until Remak,[1] in 1845, first noted the resemblance of their contents to psorospermiæ.

Leukert[2] holds that the cavities are developed from bile-passages which have been invaded by the spores, and gradually dilated. The projections into the cavity he explains as the remains of tissue formerly existing between neighboring bile-ducts which have united. The spores, he says, grow within the epithelial cells lining the gall-ducts, and five or six may occupy one cell. Such growth within the cells I have been able to demonstrate when there are but few spores. When there are many spores lining the cavity I find often no trace of epithelium; sometimes, however, there is a nucleated cell between the spores and the connective tissue. The spores, having reached maturity in the walls of these cavities, become free within the cavities, where they are enveloped in a thick membrane, and take an oval form. A micropyler opening is described at the more pointed end. The contents of the coccidium are granular and at first distributed throughout, but later collected in a spherical body. The coccidia then get into the bile-passages, then into the intestines, and finally are discharged.

After being discharged the contents of the coccidium segregate, forming four bodies which finally become sickle-shaped. The protozoon is now ready to enter a new host. Cultures of this organism have been made in chromic-acid solution, but its period of incubation is not yet fixed; results vary from two weeks to months. Animals become infected by taking into their stomachs these coccidia containing the four sickle-shaped bodies. It is thought that the coccidia disintegrate in the stomach, discharging the sickle-shaped bodies, which draw themselves into a ball, and taking on amœboid movements reach the liver through the bile-passages.

The great frequency of the disease in rabbits is noteworthy; in ten consecutive autopsies on rabbits, I found coccidium oviforme nodules in every case. Psorospermiæ have also been found in sheep,[1] pigs,[2] and monkeys.[3] They have been described in the lung of a monkey[5] in nodules looking grossly like tubercle and varying in size from microscopic to miliary.

The first case occurring in man, and recognized as psorospermiæ, was that of Grubler, of Paris, reported in 1858. There were twenty tumors in the liver, varying in size from that of a chestnut to an egg. Grubler examined the contents and thought the coccidia were the eggs of distoma, but he failed to find any worms in the intestines.

Leukert recognized its true nature. He mentions its occurrence in man in a case of Dressler, and two cases of Perls, of Giessen, also two cases of Lindemann, one of the kidney and the other of the hair, but as to the correct diagnosis of these latter cases there seems to be some doubt.

Kunstler and Pitres [4] found coccidia in a pleuritic exudation in man.

The molluscum bodies seen in molluscum contagiosum were thought by Ballinger [5] to be psorospermiæ, but this view is not generally accepted.

Darer, in an article entitled "De la Psorospermose Folliculaire Vegitante" [6] reports two cases of a characteristic skin disease. In the horny mass under the hair-follicles the author found round cells with double encircling membrane and granular contents and a medium sized nucleus. These he takes to be coccidia; he failed in efforts to cultivate and inoculate; one patient was sick nine years without infecting her husband.

Darer believes that a case reported by Dr. James C. White as keratitis follicularis [7] is similar to those described by him.

In conclusion I may mention the pseudo-tuberculosis of rodents. This disease causes nodules in the spleen, liver, kidney, and lung, also enlargement of the lymphatic

[1] Diagnostische und Pathologische Untersuchungen. Berlin, 1845.
[2] The Parasites of Man. Edinburgh, 1886.

[1] Virchow's Archiv, xxxvii., 431; xli., 283.
[2] Ibid., xxxii., 356; xxxvii., 255.
[3] Mag. f. d. ges. Theilkunde, xxxvii.
[4] Journal de Micrographie, 1884.
[5] Tagbl. d. 51 Vers. d. Naturf. u. Aerzte, 1878, p. 159.
[6] Annales de Dermatologie et de Syphilographie, 7, 1889.
[7] Journal of Cutaneous and Genito-Urinary Diseases, June, 1889.

glands and inflammation of lymph-follicles in the intestine. The lesion has the gross appearance of tubercle, but grows much faster. It was first recognized by Malassez and Vignal,[1] has since been studied by Eberth,[2] and more recently by Pfeiffer,[3] who attributes to it a specific bacillus of which he made cultures and inoculations.

Note.—At a meeting of the Pathological Society of London, December 17, 1889,[4] a specimen of coccidium oviforme of the ureter and kidney occurring in man was presented by Mr. Bland Sutton.

Dr. Prudden thought that the paper gave the idea that the disease was more common than it really was. It generally occurred in groups, as in the case recorded, and was found in the animal-houses, especially toward the end of the season, suggesting the spread of the disease from one to another.

Dr. Freeman said that the animals which he had examined had been but a short time thus exposed, but had come from the same place before this.

Dr. H. P. Loomis said that he had lately examined a number (forty) of rabbits, and as even their livers showed no such lesion he was inclined to think the disease less frequent than the paper would indicate.

Extension of Tuberculosis in the Lung by Aspiration.—Dr. John S. Ely presented some specimens illustrating the "Extension of Tuberculosis in the Lung by Aspiration."

In 1883 Weigert summed up the prevailing theories regarding the spread of tuberculosis in the body substantially as follows:

I. By direct extension of a tubercular mass in the tissue in which it exists.

II. By mechanical transport of tubercle bacilli in various channels of the body (exclusive of lymph- and blood-vessels), as, for example, through the air-passages during coughing, or in the alimentary tract in swallowed bits of sputum.

III. By penetration of bacilli into lymphatics and transportation in the lymph-current.

IV. By penetration of bacilli into blood-vessels and dissemination in the blood-current.

The exhaustive study accorded to tuberculosis during the past six years has added nothing to this list.

The specimen which I present this evening exemplifies the second mode of extension of the tubercular process, that by mechanical transport of the bacilli, in this instance through the air-passages. The specimens are sections from the lung of a patient who had for a long time suffered from bronchitis, as the result of which bronchiectases had formed in the lung. Some of these are visible along one side of the sections. The accompanying cut roughly portrays the topography of a portion of one of the sections.

There is but slight inflammation around the bronchiectases and in the lung-substance. What is especially noteworthy is the entire absence of any tubercular inflammation in the sections, except in the immediate neighborhood of the dilated bronchi. This is in itself significant, but that which renders the proof almost positive that it is through the bronchial tubes that the extension of the tubercular process has occurred, is a small mass of tubercle tissue on the wall of one of the bronchiectatic cavities. This consists of a collection of small spheroidal cells, in the centre of which cheesy degeneration is apparent. This nodule of tubercular inflammation seems to have developed from the inner surface of the dilated bronchus, and appears to have no connection with any tubercular tissue in the immediate neighborhood from which it might be considered to be an extension. I am compelled to believe it to have resulted from the lodgement of tubercle bacilli upon the wall of the bronchus and their subsequent development there.

It seems to me that this mode of dissemination of the tubercular virus must be very frequent in cases in which an advanced tubercular nodule exists in the lung, for in the forced inspiration immediately preceding a hard cough, many particles of cheesy matter or sputum might readily be aspirated into the bronchial tubes in the neighborhood of the disintegrated lung-tissue.

It has now been my privilege to present to the Society at different times specimens illustrating all the modes of extension of tuberculosis in the body enunciated by Weigert, except the first, that by direct growth of a tubercular mass, which, being self-evident, needs no demonstration.

A Heart from a Case of Angina Pectoris.—Dr. H. P. Loomis presented "A Heart from a Case of Angina Pectoris," with the liver showing peculiar whitish-gray patches.

F. G——, aged forty-six, began to suffer with what he called "heart trouble" five years before his death. During four years of this time he was confined to his house two or three weeks at a time at different periods. A year before his death he came under my observation, when he was "water logged;" there was cardiac asystolism, acute pulmonary œdema, and he was suffering almost constantly with severe anginal pains. At my first visit it did not seem possible that he could live more than twenty-four hours.

Nitrite of amyl instantly stopped the anginal pectoris, and Fothergill's pills relieved him, so that by the end of two weeks his œdema had disappeared and he was fairly comfortable. During the past year he was unable to leave his rooms, and most of that time was compelled to assume a sitting posture. He suffered daily from attacks of angina pectoris, which could only be relieved by nitrite of amyl "pearls;" morphine in full doses gave no relief, and nitroglycerine, continued for a long time, did not diminish the number or severity of the attacks.

The patient took during the year over one thousand two hundred of these "pearls," each containing five drops of nitrite of amyl, the last giving him just as complete relief as the first. His heart's action was irregular and intermittent, and physical examination gave the signs of general cardiac hypertrophy and dilatation, with extensive aortic obstruction and insufficiency. His cardiac impulse at times was forcible, but usually feeble and diffuse. His urine contained a moderate amount of albumin, but no

[1] Archives de Physiologie normale et pathologique, 1883-1884.
[2] Virchow's Archiv, Bd. 100, S. 15, and Bd. 103, S. 488; also Fortschritte der Medicine, Bd. 3, No. 22.
[3] Uber die Bacillare Pseudotuberculose bei Nagethieren. Leipzig, 1889.
[4] Lancet, December 21, 1889.

casts were ever found; during most of the time his urine contained an excess of uric acid. At times he suffered from excessive anorexia, which could only be relieved by washing out the stomach. Dyspnœa and œdema of the feet was never present after the first exhibition of Fothergill's pills. The prominent symptoms of the case, independent of those ordinarily present in valvular lesion with cardiac dilatation, were: First, the constant recurring attacks of angina pectoris; second, the length of time the patient lived after he had developed the symptoms of extensive cardiac insufficiency; and also the fact that his urine at no time showed any evidence of tubercular changes in the kidney. The explanation of the peculiar appearance presented by the liver is a point of special interest.

Autopsy, made twenty hours after death.—The heart was the largest I remember ever to have seen—a typical specimen of *cors bovis*. Its weight, after removal from the body, when emptied of blood, was one and three-fourths of a pound. The left ventricle was greatly dilated, with slightly hypertrophied, dense, muscular-looking walls one and one-fourth inch in thickness. The aortic valves were indurated, retracted, and eroded. The aorta, for two inches above its origin, was dilated, exceedingly atheromatous, and covered, in places, with calcareous plates. The right ventricle was extensively hypertrophied and dilated, as were both auricles. Microscopical examination showed moderate interstitial myocarditis, with perfectly normal muscle fibres. The lungs were normal, with the exception of hypostatic congestion in the lower lobes. The liver weighed five and one-half pounds. Scattered throughout its entire substance were whitish-gray patches, varying in size from a pin's head to a small pea. These gave the liver a very unusual appearance, and suggested areas of connective tissue increase, but microscopical examination showed that the only lesion of the liver was excessive passive congestion, and that the white areas were capillary hemorrhages which had torn apart the lower cells. The outline of the red blood corpuscles were very distinct. They had not degenerated. The kidneys were very much enlarged and of normal appearance. The microscope showed extensive congestion of the capillaries, with a slight breaking down of the free borders of the tubular epithelium in place. There was no connective-tissue increase.

Dr. Roosevelt called attention to the fact that we find angina with perfectly normal hearts, with the so-called typical lesions and with atypical lesions. He thought that no very definite relation had as yet been demonstrated, and was inclined to think that there must be some constant lesion not as yet known.

Dr. Loomis also presented a specimen of "Scirrhous Carcinoma of the Pylorus" which had caused death, but in which the symptoms had been so atypical that a positive diagnosis had not been made.

The Result of Hip-joint Exsection.—Dr. T. H. Myers presented a specimen showing the result of hip-joint exsection, in a child four and a half years of age, nine months after the operation.

The case was one of hip-joint disease, with abscesses, pain, and lack of suitable means for conservative treatment.

In the track of an abscess, by the usual Langenbeck incision, the head of the femur was removed. Abscess cavities were found within it. The limb was fixed as much as possible by the long lateral splint, and extension also applied. In two and one-half months the child was allowed up, and the next month began to bear some weight upon the limb. The joint seemed firm, and no aid was sought by applying the hand to the hip or thigh. The motion in the joint at seven months was very fair in deed. Flexion was especially good, while abduction and adduction were allowed to a slight degree; and though there was this free motion, there was very little telescoping of the joint. The shortening amounted to half an inch only. Dissection shows the lack of telescoping to be due in greatest part to the very well defined upper and posterior border of the acetabulum, which has not apparently suffered from the disease. The ligaments and muscles about the joint, also, have accommodated themselves to the altered anatomical relations, and enclose the joint firmly and closely. It is unfortunate that this cannot now be shown in the specimen presented.

The origin of the ligamentum teres shows a small cartilaginous nodule, probably formed since the operation.

Dr. Lynde, to whom I am indebted for the history of the case, assures me that the neck of the femur is shorter than it was at the time of the operation. It now barely extends beyond the intertrochanteric lines. The opposing surfaces are now covered with a strong, smooth, fibrinous membrane, and articulate almost smoothly, giving rise to an albuminous crepitation only.

There are still two small circular areas on the femoral neck, covered only by softer granulations; at no point, however, is there any exposed bone, nor is there evidence of any active disease in the joint.

Ollier has lately published [1] the ultimate results in his series of fifty cases of excision of this joint, and it is instructive to note that those cases which recovered with more or less free movement in the joint, though enabled to sit gracefully and conceal their defect more readily, could not stand the long walks and other violent exercise which the ankylosed joints bore with impunity.

The child from whom this specimen was removed died nine months after operation of general tuberculosis. I hope Dr. Northrup, who made the autopsy, will give his opinion as to the relation between the two. Was the hip-joint disease primary or secondary?

The President said he thought the case a very good one of secondary hip-joint disease, and the best example of cured pulmonary tuberculosis that he had ever seen. The tubercles were present in great numbers in the meningeal lesion, but their origin he had been unable to discover.

The Society then went into executive session.

Stated Meeting, December 13, 1889.

William P. Northrup, M.D., President, in the Chair.

Dr. G. C. Freeborn presented the following card specimens:

Chronic Ovaritis.—A series of six ovaries illustrating chronic ovaritis with the formation of follicular cysts. These ovaries have been removed by laparotomy. A transverse section through a Fallopian tube, showing chronic suppurative salpingitis. Tube measures one and one-fourth inch in diameter. A section through a small multilocular cyst growing from the cyst-wall of a large multilocular cyst of the ovary.

A Preserving Fluid.—This specimen had been fixed in Flemming's chromic and acetic acid mixture (one per cent. aqueous solution of chromic acid, 20 parts; two per cent. aqueous solution of hydric acetate, 4 parts; water, 70 parts). The specimen was suspended in one hundred times its volume of the above fluid for forty-eight hours; then washed in water until all color ceased to come away; then hardened in seventy per cent. alcohol. After removing the specimen from the fixing fluid, the walls had the consistency of soft leather, and when the specimen was cut around, the walls of the various cysts did not collapse, but retained their normal position.

From the results obtained with this specimen, and from experiments that are now being made with large cysts, I think this fluid will prove valuable as a preservative for gross specimens of cystic degeneration.

The President asked what was the white material seen in one of the specimens presented.

Dr. Freeborn replied that it was apparently the contents of the cyst. One of the specimens showed a slight hemorrhage, which the speaker regarded as an accidental

[1] Bull. Acad. de Med., Paris, 1889, 3 S. xxi., 693.

hemorrhage occurring during the removal of the cyst. The cases were all operative ones, and the histories were not known.

Dr. Boldt said that there was always a history of ovaritis in cases of this kind.

Dr. Biggs said that he had very frequently found cystic changes in the ovaries without the slightest evidences of inflammatory processes.

Dr. Boldt replied that he had spoken from a clinical standpoint only. All operative cases gave this history.

Dr. T. M. Prudden wished to call particular attention to the mode of preservation that had been used in these cases, for it was usually a very difficult thing to preserve cystic adenomata of the ovaries well.

Photogenic Bacteria.—Dr. Prudden then showed some cultures of one of the forms of "photogenic bacteria." A culture on agar-agar, when shown in the darkened room, emitted a phosphorescent light, and a flask of water containing some of the bacteria became luminous when agitated. Several forms of these photogenic bacteria have been isolated and described, some being obtained from phosphorescent fish, and others from crabs. The latter had been shown to be pathogenic.

Melanotic Sarcoma.—Dr. H. J. Boldt presented a specimen of "melanotic sarcoma" removed from the belly of the gastrocnemius muscle of a young man. The tumor had grown very slowly at first, but during the last few months had caused some trouble. The centre of the growth was fluid, and was found to contain blood. The walls of the cyst were melanotic. A large portion of the belly of the gastrocnemius muscle was removed with the tumor, as were also the neighboring glands, which were found to be likewise melanotic.

Sarcoma of the Uterus.—A second specimen was one of "sarcoma of the uterus," complicated with ovarian tumor. The woman had had hemorrhages for some time. The ovarian growth was first removed and then the uterus. The patient died, and at the autopsy there was found to be chronic interstitial nephritis, and the heart was very small, being no larger than that of a child nine years of age.

Shot Wound of the Chest—Dr. H. M. Biggs presented a specimen of "shot wound of the chest" in a child eleven months of age. The child had been shot fifteen days before her death, the bullet entering near the right nipple. It struck a rib and was deflected, passing through the diaphragm and into the kidney. At the autopsy the right lung was found to be completely collapsed, and there was pneumo-thorax, with a fibrinous exudation on the pleura, but without any effusion in the pleural cavity. There was, in addition, a very recent general "miliary tuberculosis." The parietal pleura on the right side contained thousands of miliary tubercles, and there were also tubercles in the brain and other organs. There were no evidences of any old tuberculous process. Although miliary tuberculosis was rare in so young a patient, the speaker had seen it in a child of eleven weeks.

The Society then went into executive session.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 20, 1890.

Alfred L. Loomis, M.D., President, in the Chair.

The Therapeutics of Heart Disease.—Dr. H. N. Heineman, in a paper on this subject, gave a preliminary outline of the anatomy of the heart, an understanding of which, as well as of the function and pathology, was necessary in the treatment of its lesions. The lesions of the heart might be divided into two great groups. The first included congenital conditions of the heart and arteries. An abnormally small heart, associated with imperfectly developed blood-vessels, was not rare. The second group included cases of acquired disease. These were due primarily or secondarily to sclerotic, fatty, or other degenerative changes acting immediately upon the heart or the vessels, or mediately through disease of other organs, as of the kidney. Then there were conditions, the cause of which were more or less obscure, such as tachycardia, abnormally slow heart, interrupted heart-beat, and angina pectoris. The condition of the blood, plethora, and hydræmia frequently furnished important indications for treatment.

A brief *résumé* of the various cardiac conditions which we were called upon to treat was given: Hypertrophy, concentric or excentric, alone or in combination with dilatation; then dilatation, alone or with hypertrophy; mitral disease, stenosis or insufficiency; aortic disease, stenosis or insufficiency; mitral and aortic disease, disease of the pulmonary artery. As causes there might be waxy, fatty, or fibrous degeneration or sclerosis; inflammations; infectious disease; obstructed circulation, which acted secondarily through changed blood state; tumors; emphysema and other pulmonary disease; renal affections.

The Indication for Treatment.—In all cases it was insufficiency of the cardiac muscle which furnished the key note for treatment. It was the natural tendency of a viscus to seek to restore itself to the normal state or adapt itself to new conditions. The diseased heart, by a system of compensatory hypertrophy, sought to resume its normal function.

Hygienic, Dietetic, Remedial, and Chemical Agents.—Such was the division which the author made of agents employed to combat cardiac disease. Some acted temporarily, some permanently, some locally, others constitutionally, while a few acted directly upon the heart muscle, most of them, however, indirectly, by changing the blood state or restoring nerve-tone; finally, some acted whose rationale was not entirely clear.

Remedial Agents.—Under remedial agents he mentioned as some of the most important digitalis, strophanthus, convallaria, sparteine, ergotine, and general tonics, including strychnine, hyoscine, iodide of potassium, and galvanism.

Remedies for a more temporary effect were, alcohol, caffeine, tea, chloroform, ether, camphor, musk, nitroglycerin, nitrite of amyl, opium, counter-irritation, phosphorus, venesection.

Dietetics included the regulation of liquid and solid foods, and absolute control as to the character and quantity of each, depending upon indications found in the condition of the cardiac muscle and blood state. The mechanical included walking, hill or mountain climbing, gymnastics, and other forms of exercise.

Speaking of the treatment historically, the author said Stokes introduced a new departure, which, by many, was too little heeded when he recommended greater and increasing amount of exercise according to the individual case, and suggested meat diet, abstinence from fatty food and vegetables. Some wine and whiskey was allowed, except in advanced stages.

Strophanthus and convallaria gave better results combined than separately. He preferred the tincture of strophanthus to the alkaloid. The previous habitual use of tea or coffee would furnish an indication as to their value in heart affections. Musk, so long recommended, has come to be looked upon with scepticism, but unjustly so. Too small doses would account for its inefficacy. Strychnine, quinine, and nux vomica had a beneficial effect upon the unstriped muscular fibres of the heart. It was not necessary to dwell upon the virtues of digitalis. Its cumulative action might be prevented by use in connection with sparteine.

The Mechanical Treatment.—In cases of degeneration of the heart-muscle some of the healthy fibres remaining might hypertrophy and even predominate over the degenerated fibres, and action be restored to a partially useless muscle. By proliferation new fibres might form, and fatty degeneration and infiltration lose their influence and return to a normal, or nearly normal, function be

brought about. Observation had shown that the heart-muscle itself, although not of the striped variety, was not beyond these influences. Exercise increased the functional activity of the heart, causing an increased flow of blood to its nutritive vessels and improved nutrition. He had made an autopsy on a 'longshoreman, aged sixty-nine, who had for fifty-two years carried a mitral lesion, which showed that a pursuit requiring more or less daily strain was not necessarily contra-indicated by the presence of a heart lesion.

The Sphygmograph was of value as showing the beneficial influence of properly regulated exercise, manifest in the improved tracings. *A priori*, stenosis of the mitral orifice was a contra-indication to the mechanical treatment of cardiac disease rather than regurgitation. Mechanical treatment in such a case would only increase the hindrance to the venous circulation, for the more quickly the fluid was sent past the obstruction the more the obstruction became felt. In stenosis of the aorta, however, if not followed by compensating hypertrophy of the left ventricle, the mechanical method found application.

In Insufficiency of the Valves, more particularly of the left side, nature made a strong effort at compensation. This effort, however, might be aided by the mechanical method. How long it should be employed in these cases was a very serious question. They should be closely watched, for while compensation might be attained, it was always a question how long it would be retained.

Contra-indications to the Mechanical Method.—As soon as marked circulatory disturbance and increased dilatation of the right ventricle became apparent, the mechanical method was contra-indicated. Where stenosis and insufficiency were combined, the answer to the question, whether the mechanical treatment should be employed, would depend upon whether the stenosis or the insufficiency predominated.

In Fatty Degeneration or infiltration, associated with plethora or hydræmia, the mechanical method, carefully applied, associated with dietetic means, was a powerful restorative agent of lost compensation.

Dietary Treatment.—When there was plethora and commencing heart disease, albuminoids with a diminished amount of fat-producing food had been recommended. By abstaining from fluids fat-absorption was promoted. In cases with normal or diminished fatty deposit, with diminution in cardiac force and anæmia and hydræmia, there was also an indication for albuminoids and regulated diet.

Exercise in the Open Air.—Dr. Francis Delafield thought it was difficult to discuss the question of the treatment of chronic heart disease, for this term included a great variety of conditions, each one demanding its particular form of treatment. Probably what was expected of the speakers this evening was to say something on certain points brought out in the paper. Regarding the so called mechanical treatment of heart disease there was perhaps no sort of treatment worthy of greater attention than this. It was first presented to us in a more or less crude way, and with our preconceived notions of heart disease we were shocked by it. Time has shown, however, that, excluding a certain number of cases which required rest in bed, or confinement to the house, there remained a considerable number of cases of all kinds which unquestionably were benefited by exercise in the open air. That seemed to be really the practical outcome of the mechanical treatment. It was not necessarily mountain climbing, it was not necessarily gymnastics, but exercise in the open air adapted to the condition of the heart and of the patient. It should be adapted to the heart action, not the heart lesion. It was of benefit in improving the general health of the patient, in enabling him to take more nourishment, in improving the circulation, in diminishing the disposition to venous congestion; the heart participated in the general improvement, and if the conditions of the valves was to be benefited it could be done in this way. But while a great many of the patients were improved, none probably were cured, and in most of them the improvement lasted only a moderate length of time.

A Question of Oxygen.—Dr. William H. Thomson said he had been long led, in considering the treatment of heart disease, to ask himself, what is it that muscles need most, and to find the answer in the word oxygen. He thought it could be demonstrated that throughout the whole animal kingdom muscular power was dependent upon the amount of respiration. For that reason the insect tribe had muscular power phenomenally greater than living creatures which breathed with the lungs. For that reason, also, the women among nomadic tribes were as strong as the men. We now know that the muscles of the body have another function to perform besides that of contraction, namely, to act as furnaces to the body. There was more carbonic acid generated by a muscle than by any other tissue, which fact meant that the muscles used up more oxygen than any other tissue. Their function was double—to contract, and to produce animal heat.

Take Iron and Camp Out.—The only service of iron in the body was to aid in breathing, and he placed it among the foremost remedies in cardiac disease. Next to it was the remaining out-of-doors as much as possible. Patients with heart disease should have their sleeping-rooms better aired than others. Here was the explanation of the entire benefit derived from mechanical treatment. No other treatment could be compared in value to camping out.

Cardiac Changes usually Secondary to Arterial.—In our hospitals the cases of heart disease in post-adult life gave evidences of being secondary usually to arterial changes which caused resistance to the flow of blood. Here there were two indications, the one to increase the cardiac systole by neurotics, which could have only a temporary effect, the other to relieve arterial tension and reduce to a minimum nervous contraction of the arteries; the latter indication was best met by out-of-door life.

Opposed to Increasing the Albuminoids.—He strongly disagreed, he said, with the recommendation to increase the albuminoids; or, rather, he would change their form, limiting them almost exclusively to fermented milk. Thus he would throw as little work as possible on the kidneys. Neurotics should be used only as adjuvants.

Digitalis the Best but Most Abused Cardiac Stimulant.—Dr. S. S. Burt approved of exercise, but it should be in the open air, and to the extent only of filling the tissues to their utmost with oxygen. Regarding medicines, he had found that digitalis, while one of the most useful in cardiac disease, yet was the most abused. It was not called for where there was compensation. But the general practitioner, as a rule, seemed to give it in all cases of cardiac disease, and thus the medicine was made to do perhaps more harm than good.

Criticisms on the Mechanical Treatment.—Dr. Richard Van Santvoord thought the author had hardly given sufficient weight to the criticisms which had been made on the mechanical treatment, particularly in Germany, where it also had its most enthusiastic advocates. Cases had been reported in which it had been shown to have done actual harm. He also said it was important where there were symptoms which might be attributed to heart disease, when a cardiac murmur was present, to assure one's self that some other condition was not the real cause of the patient's suffering. He related such a case in which the apparent cardiac symptoms were due to neurosis connected with delayed menopause.

Three Indications.—The President thought there were three indications in the therapeutics of heart disease: First, good arterial blood; second, rapid removal from the system of all retrograde metamorphoses; third, the maintenance of the normal condition of the trophic nerve-apparatus of the heart. It was pleasant to find the discussion to-night directed largely to the nutrition of the

heart. We had left discussion of valvular diseases, and brought it under the one head of the condition of the heart muscle.

The Question of Rest and Exercise could not be Flippantly Answered.—He had found it one of the most difficult points to determine whether a given patient with cardiac disease should have rest or exercise, there could be no difference of opinion regarding the importance of hygienic surroundings, of oxygen, sunlight, regulated diet, and freedom from excitement. But to be able to say whether the cardiac hypertrophy had or had not passed the point of compensation, whether the increased muscular power which compensated for the valvular lesion had or had not passed its limit, seemed beyond our present knowledge. He did not think it safe to tell a patient with heart disease whom one had seen only once or twice to go into the country and exercise, for he had known two or three to be killed in that way. It was necessary to keep close watch of the patient, especially where there was beginning loss of compensation. In patients beyond middle life very little exercise was all that could be safely prescribed. It was better for them to be at the seaside than in the mountains.

Regarding the trophic nerve-apparatus of the heart, he hoped we would soon know more about it. Medicines were only temporary expedients. When cardiac tonics in the form of drugs were necessary the time had passed when exercise was safe.

Dr. Heineman made some closing remarks.

The Functions of the Cerebellum as Indicated by Recent Experiments.—Dr. E. D. Fisher read part of a paper with this title. The portion read contained a detailed description of experiments on seven or eight dogs, one monkey, and one pigeon, made in the Loomis Laboratory, consisting in removal of more or less of the cerebellum and observing the after-effects on the animal with relation particularly to co-ordination. One fact stood out very clearly, he said: that it required removal of a very considerable amount of the cerebellum to produce any but very fleeting symptoms. They had confirmed once more the statement of previous experimenters with regard to lesions of the lateral and central lobes. They had shown that mechanical irritation of the cerebellum caused no ocular symptoms or sensory disturbance. In regard to psychical function, certainly no change was observed in temperament or intelligence. The influence on the sexual instinct was noted in one case, that of a dog in which a part of one lateral lobe of the cerebellum was removed. The dog afterward manifested usual sexual power. There was more or less loss of co-ordination, seemingly without loss of power, corresponding usually to the side operated upon and the extent of the injury. It was transient when the lateral lobes were the seat of the experiment. A number of the dogs subsequently succumbed to abscess or hemorrhage.

Dr. W. Gilman Thompson, who had witnessed these experiments, thought they proved pretty definitely that there was a kind of inco-ordination which was caused by lesions of the cerebellum which differed from those forms due to lesions of the cerebrum and cord. In speaking of inco-ordination it was important, if possible, to distinguish between these three varieties, and perhaps others. It was observable in these animals that the complete loss of co-ordination was fully regained in a certain number of days. It seemed that other portions of the brain or cord adapted themselves to do the work of the portion which had been destroyed.

A Foreign Body in the Eye for Six Years.—Dr. Guiot reports in *L'Année Médicale de Caen* for November, 1889, the case of a man who had received an injury to the eye six years previously. There was considerable reaction at first, but this soon subsided and all signs of a local inflammation passed away. Examination showed the presence of some foreign body beneath the conjunctiva which, on removal, was found to be a splinter of bark from a tree.

New Instruments.

AN IMPROVED ANTISEPTIC LOCK FOR SURGICAL INSTRUMENTS.

By GEORGE M. EDEBOHLS, M.D.,

NEW YORK.

The cut represents the lock applied to the well-known McBurney needle-holder. It may be applied to any surgical instrument requiring any other than the obstetric lock.

One blade has, at A, a low, spherical elevation fitting into a shallow depression, B, of corresponding shape, on the other blade. This constitutes a ball-and-socket joint easy to cleanse. The double shoulder serves to impart steadiness and firmness to the entire instrument, preventing lateral displacement of the jaws, as well as of the handles, when in use.

The French lock, so long in use, with the shoulders attached to pivot, as well as the more recent form with a pivot on one blade, a corresponding hole in the other, and a shoulder anterior or posterior to lock, present minute recesses, corners, and holes difficult to keep properly clean. This objection is overcome by what I have ventured to designate an improved antiseptic lock.

The lock was presented to the Section of Obstetrics and Gynecology of the New York Academy of Medicine, at the January, 1890, meeting. It has been applied by the Messrs. Reynders & Co. to various instruments

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 2 to March 8, 1890.

Hoff, J. Van R., Captain and Assistant Surgeon, Leave of absence for one month granted. Par. 1, S. O. 26, Department of the Missouri, March 5, 1890.

Kimball, J. P., Major and Surgeon. Leave of absence for twenty days granted. Par. 1, S. O. 25, Department of the Missouri.

Official List of Changes in the Medical Corps of the United States Navy for the week ending March 8, 1890.

Schofield, W. K., Medical Inspector. Ordered for examination preliminary to promotion to Medical Director.

McMurtrie, D., Surgeon. Ordered for examination preliminary to promotion to Medical Inspector.

Gates, Manley F., Assistant Surgeon. Detached from Navy Yard, League Island, and ordered to the Kearsarge.

Harris, H. N. T., Assistant Surgeon. Detached from the Kearsarge and ordered home.

A Scarcity of Doctors.—There is said to be a great dearth of medical practitioners in Hayti, many even of the larger towns in that uneasy island being without a doctor of any sort. Life in Hayti is not pleasant enough to tempt many to take up their residence there.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 8, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	11	3
Scarlet fever	72	9
Cerebro-spinal meningitis	4	6
Measles	144	11
Diphtheria	125	35
Small-pox	0	0
Varicella	5	0
Cholera	0	0

The Merritt H. Cash Prize.—The Medical Society of the State of New York offers a prize of $100, payable from the Merritt H. Cash prize fund, for the best original essay on any medical or surgical subject. The conditions are: That the competitors shall reside in the State of New York; that the essays shall be either printed or typewritten; that each essay shall be designated by a motto on the title-page; that a corresponding motto, together with the name of the writer, shall be enclosed in a sealed envelope and attached to the essay; and that all essays shall be sent to the Chairman of the Committee on Prize Essays, Dr. George F. Shrady, New York, prior to January 1, 1891. Other members of the committee are Dr. Daniel Lewis, of New York; Dr. Eugene Beach, of Monmouth.

F. C. Curtis, *Secretary.*

Medical Society of the State of New York,
Albany, N. Y., March 1, 1890.

Tenth International Medical Congress.—In connection with the Tenth International Medical Congress, to be held in Berlin, between August 4th and 10th, there is to be an International Medical and Scientific Exhibition. The exhibits will be of an exclusively scientific nature, as follows: New or improved scientific instruments and apparatuses for biological and strictly medical purposes, inclusive of apparatuses for photography and spectral analysis as far as applicable to medicine. New objects and preparations in pharmacological chemistry and pharmacy. New foods. New or improved instruments, subservient to any of the departments of medicine, including electrotherapy. New plans and models for hospitals, convalescent homes, and disinfecting and bathing institutions and apparatuses. New arrangements for nursing, including transportation, baths, etc. New apparatuses in hygiene. Applications or inquiries inscribed "Ausstellungs-Angelegenheit," and accompanied with a printed card containing the name and address of the firm thus applying, ought to be directed to the Secretary-General, Dr. O. Lassar, Carlstrasse, No 19, Berlin, N. W., Germany. R. Virchow, *President;* E. von Bergmann, E. Leyden, W. Waldeyer, *Vice-Presidents;* O. Lassar, *Secretary-General.*

The Thomas Hip-splint.—Dr. Wallace Blanchard, of Chicago, writes in *The Medical Standard* for January, 1890, claiming that the so called Thomas hip-splint was used by himself in the treatment of hip disease five years before Mr. Hugh Owen Thomas, of Liverpool, brought the apparatus to the attention of the profession. He adduces in support of this claim a letter from Dr. Edmund Andrews, of Chicago, in which the writer states that Dr. Blanchard used the splint in his wards at Mercy Hospital in 1872, three years before Mr. Thomas published his book. If this be so, and we do not for a moment doubt it, Dr. Blanchard should have published a description of his splint at the time that he first employed it and found its working satisfactory. If he failed to do so, and Mr. Thomas devised a similar splint (not knowing of Dr. Blanchard's invention), and published an account of it to the profession, he is justly entitled to the credit of the invention, and there is no injustice in attaching his name, instead of Dr. Blanchard's, to the splint. The world has no means of knowing of an invention, except through its publication.

Raising the Standard of the Medical Profession.—Dr. Mareell Hartwig, of Buffalo, N. Y., sends a plan for raising the standard of the profession in this country, which is, he thinks, more practical, as well as more consistent with the liberty of the citizen, than any others which have yet been proposed. The State should establish a new class of medical practitioners, called "State physicians," or any other name that might be chosen, whose right to the title should rest upon the fact that they had passed an examination before a board appointed by the governor. From this class should be appointed all public medical officers, and only these should be allowed to appear in the courts as expert witnesses. Other practitioners might exist as now, and the people should have the right to select them, if they choose, in preference to the State physicians. But it would not be long before the State physicians would be recognized as possessing better qualifications than the others, and the people would gradually become used to the distinction, and employ by preference those whom they knew to be better prepared to treat disease.

Periurethritis Dissecans as a Complication of Gonorrhœa.—Dr. Matlakowski, of Warsaw, details the following instance of what he appropriately calls *periurethritis dissecans.* A man, aged forty-eight, had contracted gonorrhœa, presenting no unusual features except a strikingly profuse purulent discharge. Notwithstanding an assiduous treatment by injections (of some "mild solutions"), the penis had soon become swollen, hard, and moderately painful and tender, while there had supervened inflammation of the dorsal lymphatics and continuous erections. On examination by Dr. Matlakowski, about five weeks since the first symptoms, the patient's member was found to be enormously enlarged, knotty, hard, tense, erect, and hot, the orifice profusely discharging ropy pus, the prepuce slightly tumefied, the site of the urethra occupied by fluctuating swelling reaching from the glans down to the scrotum, the inguinal glands somewhat enlarged. The micturition, however, was free, and the bodily temperature normal. Having without delay brought the patient under the influence of chloroform, the author made an incision eight centimetres long, running along the urethra on the lower aspect of the penis. A large quantity of pus escaped from the wound, after which it became evident that the urethral tube was completely detached both from the integuments and cavernous bodies, and was lying quite free in the purulent cavity, from which it could be easily drawn out through the incision by means of a probe. A digital examination showed that suppuration had extended backward to the foremost scrotal tissues, and separated the cavernous bodies of the penis. The latter structures themselves, however, as well as the urethral cavernous body, had remained quite intact. The wound rapidly healed, except one spot, where there formed a minute urethral fistula, discharging a few droplets of urine on micturition. Dr. Matlakowski adds that he has been unable to find another similar case in international literature.—*The Provincial Medical Journal, February* 1, 1890.

Tongue-tie.—Dr. Tassius, of Berlin, makes himself responsible for some novel views on the propriety or otherwise of incising the frænum of the tongue. He says in his introductory remarks that the little operation has often been performed without considering that other and deeper causes, especially those connected with the general development, may be accountable for the faulty development of speech than the mere size of the frænum. He considers that this tiny and admirably constructed organ is a correct regulator of the various movements of the tongue,

and that, if the same be too hastily interfered with, the more delicate movements may be forever destroyed—a momentous fact for those who are destined to become public singers. He advises his medical brethren, therefore, to proceed very cautiously, and not to operate at too early an age, as much improvement may result from the advancement of general development. Only in those cases in which the frænum is so abnormally large and tendinous as to cause a fissure in the tip of the tongue, may the incision be made at once, but it should be calculated almost mathematically what proportion the depth of incision should bear to the fissure. The author deprecates, therefore, the use of scissors, as not to be depended on, but advocates the employment of a small knife, the incision to be made from below upward. Where the frænum is of a fleshy character, and it is, consequently, certain that the child will never gain distinction in singing or elocution, there is, according to Dr. Tassius, no cause at all for immediate interference, unless the deformity causes a real impediment. It is far better to leave such cases—at any rate for some time—entirely to the *vis medicatrix naturæ*.—*The Lancet.*

Table for the Differential Diagnosis of Gastric Affections.—Dr. Loundby has prepared the following table as an aid in the diagnosis of diseases of the stomach :

Symptoms.	Gastrodynia.	Atonic Dyspepsia.	Gastric Catarrh.	Ulcer.	Cancer.
Character of Pain.....	Dull, heavy.	Dull, heavy.	Burning soreness.	Acute stabbing.	Cutting.
Locality	Epigastrium.	Epigastrium.	Behind sternum.	In one spot.	Epigastrium.
Incidence.....	Immediately.	After 1 or 2 hours.	After 2 or 3 hours.	Immediately.	After 1 or 2 hours.
Tenderness ...	Sometimes.	None.	None.	Usually.	Usually.
Vomiting.....	Usually.	None.	Often some retching.	Usually.	Usually.
Hæmatemesis.	None.	None.	None.	Usually.	Usually.
Tongue.....	Clean.	Clean.	Furred.	Clean.	Variable.
Tumor.....	None.	None.	None.	None.	Usually.
Age	Usually under 30.	Any age.	Any age.	Usually under 30.	Usually over 40.
Sex	Usually female.	Either.	Either.	Usually female.	Usually male.

Successful Removal of a Knife from the Bladder.—At a recent meeting of the National Academy of Medicine of Mexico, Dr. Lavista related the following case. A man about thirty-five years of age received a stab in the abdomen which penetrated the bladder. The man, who was on horseback at the time, made the animal rear when he felt himself wounded, and the blade of the knife was broken over the pubic bone, one of the fragments falling into the bladder, where it remained for two years and a half. The wound gradually closed, but the foreign body set up severe cystitis, and from the time of the injury the patient was never able to hold his body quite straight—it was always bent a little forward. He suffered such incessant pain that he could hardly sleep, and he became greatly emaciated. Calculus having been diagnosed, lithotrity was attempted, but it was found impossible to crush the stone. An exploratory opening was then made through the perineum, when the knife was discovered "placed like a bridge between the two walls—anterior and posterior—of the bladder, directed obliquely downward and backward, the edge being undermost." It was so immovably fixed in this position that it was impossible to remove it through the perineum. Supra-pubic cystotomy was then performed, an incision five inches in length being made. Even this was not sufficient, and the wound had to be enlarged. The knife was at last got out, and then the fragments of a large stone, which had distended the bladder, and in this manner had prevented the point of the knife from penetrating its wall, were removed. The walls of the bladder were ulcerated and covered with vegetations. After scraping the mucous membrane, the wound of the bladder-wall was accurately sutured, provision being made for drainage both above the pubes and through the perineum. "Healing was almost immediate, no untoward circumstance occurred, and the course of the case has been of the happiest." One hardly knows which most to admire in this extraordinary case, the skill of the surgeon or the phenomenal endurance of the patient.—*The London Medical Recorder.*

Surgeon Parke.—A *Times* correspondent, in the report of an interview with Mr. H. M. Stanley, at Suez, thus refers to Surgeon Parke : Dr. Parke, another old friend of all Anglo-Egyptians, was then still clothed in the white drills in which he had crossed Africa. Pulled down by recent fever, his color just returning with the sea voyage, he looked younger than when he started, and it seemed incredible that he should be the man to whose unceasing work and skill Mr. Stanley bears such willing testimony. By one trait he will be recognized, however, by all who have ever met him. "He spoke to every woman in the interior of Africa with the same gentleness and courtesy as he would to a lady in a drawing-room at home," said Mr. Stanley.

Antisepsis in Wood-working.—There appears to be such a thing as a diagnosis of disease in wood. Dry rot is called contagious, and it is said that the germ of that disease may be communicated to sound wood by tools which have been at work in diseased wood. It is thought possibly that the theory accounts for many otherwise incomprehensible breakages of timber. The suggestion is that sound timber should not be cut with the saw that has passed through wood affected by dry rot without cleaning.—*American Druggist.*

The Advantages of a Sea Voyage.—The benefit to health following upon a sea voyage is, according to Dr. Burney Yeo, due to the following causes : 1. Perfect rest and quiet, a thorough change of scene, and perfect and enforced rest from both mental and physical labor. 2. The life in the open air, and the great amount of sunshine enjoyed, it being quite possible to spend fifteen hours every day in the open air. 3. The purity of the sea-air, no organic dust or impurities—the air of the open sea being the purest found anywhere. 4. The great humidity of the atmosphere and the high barometric pressure, which are considered to exercise a useful sedative influence on certain constitutions. 5. The exhilarating and tonic effects of rapid motion through the air—the sea-breezes are constantly blowing over the ship. These breezes increase evaporation from the skin, and impart tone to the superficial blood-vessels.—*The Nineteenth Century.*

The Difference Between a Lawyer and a Doctor.—What, under the laws of Kansas, is the difference between lawyers and doctors? The lawyer gets his fee if he wins his case, the doctor if he loses it. When the lawyer wins his case he may file a lien upon the judgment for his fees, if he loses it he must trust to the honor of his client. If the doctor loses his patient his fee is a preferred claim, if he cures him only the few who have, in their own name, more than the law exempts, are compelled to pay his bill.—*Kansas Medical Journal.*

Transmission of Phthisis in Married Life.—M. Leudet has occupied himself with collecting some statistics on the question of whether a wife can give phthisis to her husband, or a husband to his wife. He has taken 112 widows or widowers, whose husbands or wives respectively have died in undoubted phthisis. Out of these 7 were phthisical ; but several of them had facts in their previous history, before marriage, showing a phthisical tendency. His inference was, therefore, that the transmission of phthisis in married life must be very rare ; even more rare in the upper classes than in the middle and lower. In 80 out of these 112 cases there was a family history which he could follow ; and 27 of these showed some members who were phthisical.—*The Practitioner*, February, 1890.

A Medical Delegate.—Dr. Montague, of Haldimand County, Ontario, has just been elected a member of the Ontario Parliament.

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ON THE RESULTS OF TREATMENT OF FRACTURE OF THE PATELLA WITHOUT OPERATION.[1]

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BEFORE the spread of antiseptic surgery there was a general agreement as to the results of fracture of the patella. Bony union was regarded as a great rarity, and efforts were directed to obtaining as short and firm a ligamentous union as possible. Anchylosis was much feared, and the use of passive motion at an early period in the treatment was general. With antisepsis bony union was attained, and at the outset it seemed that we had made a great gain; but the danger of the operative procedure soon became apparent, and it may be said to be in disfavor. But it has had a voluminous literature, in glancing through which one is struck by the fact that, in the opinion of operators, the chief indication for operation is the fact that with the old methods not only bony union but useful limbs, were exceptional. Hamilton [2] was one of the first to make a large collection of cases (127) treated without operation. His example has been followed by Beck,[3] who gives the results of sixteen years' experience, at the Tübingen clinic, of both operative and mechanical treatment; and Brunner [4] has done the same with all cases at the Zürich clinic for twenty-five years. As a further contribution to the results of non-operative treatment, I present what I can glean from my own experience for the past fifteen years. I am able to report on the result in twenty-two cases after periods varying from one year and nine months to thirteen years after the date of injury. I have records of twenty-two other cases. In the majority of these the condition has not been noted after leaving hospital at the end of treatment taking about six or eight weeks. Although the hospital notes give evidence that the ligament was as a rule short and the patients able to extend the limb, there has always been noted more or less stiffness on flexion. I can therefore make no use of those cases which careful search has failed to find since leaving hospital, and ask your attention only to those in which the result has been seen after a period exceeding one year from the end of the treatment. It is generally conceded by authorities that the restoration of function to the knee is slow, varying from six months to a year; and it is useless to frame convictions on results reported at an earlier period. Stimson, in writing of bony union, says: "The test is found in time and use, and it is quite common to see a gap, which is very slight at the time treatment ends, increase to the length of half an inch or more in the course of a few months." [5] This is quite as true of the result of ligamentous union.

These cases, excepting one, have been examined by Dr. C. A. Powers or myself within the past two months.

The above twenty-two cases embrace sixteen in which the injury was a primary fracture, and six cases of "refracture." But nineteen patients are represented, as three had had fractures on both sides at different times. Inasmuch as the functional results are not to be expected to be so good in the cases of "refracture" or rupture of the ligamentous union, I will speak separately of them. Of the sixteen fractures, I find an excellent result in fourteen, a bad result in two. In round numbers eighty-seven and a half per cent. are satisfactory; twelve and a half per cent. are unsatisfactory.

Let me go more into details as regards the functions of the limb, to explain what I characterize a good result. Where flexion and extension of the limb have been complete and strong, and the ligament firm, with little or no atrophy of the thigh, the result may be summed up as "functionally perfect." There are ten such cases. Where either flexion or extension has been imperfectly performed, with, however, a joint useful, according to the patient's statement, for all the purposes of his or her occupation and exhibiting weakness only after unusual exertion, the result has still been called "good." There are four such cases. The bad results embrace two cases in which there is no power of extension whatever, and the patients are compelled to wear supports or walk with a cane.

In order to make these statements clearer, let me abstract some details from the histories which are appended to this paper. The following are the conditions in the fourteen cases which I consider attended with good result (the length of the ligament is given in the flexed position):

1. Functions perfect at end of ten years and two months; ligament, $\frac{1}{4}$ to $\frac{1}{2}$ inch; no atrophy. 2. Functions perfect at end of twelve years and five months; bony union; no atrophy. 3. Functions perfect at end of thirteen years; ligament, $\frac{3}{4}$ inch; atrophy, 1 inch (at end of eighth month this ligament was recorded as two inches in length). 4. Functions perfect at end of eight years and six months; ligament, $\frac{1}{4}$ inch; no atrophy. 5. Functions perfect at end of five years and five months; ligament, $1\frac{1}{4}$ inch; no atrophy. 6. Functions perfect at end of five years and six months; ligament, $1\frac{1}{4}$ inch. 7. Functions perfect at end of five years and two months; ligament, 1 inch; no atrophy. 11. Functions perfect at end of one year and nine months; ligament, 1 inch; 2 inches atrophy. 10. Except flexion, which is eighty degrees; functions perfect at end of two years and one month; no separation; $1\frac{1}{2}$ inch atrophy. The patient is a waiter by occupation; is sure that the limb is as strong and as serviceable as ever. 8. Flexion ninety degrees; extension a trifle short at end of three years and one month; ligament, 1 inch. 9. Movements free, but limb is weak after unusual exertion; cannot run far. At end of one year and two months no separation of fragments. 13 Functions perfect after ten years and eight months; ligament, $\frac{1}{4}$ inch. 18. Functions perfect after six years; ligament, $1\frac{1}{4}$ inch. 15. Died five and one-half years after leaving the hospital. Her friends, living in the same tenement-house, state that she walked up and down stairs without limp or assistance, and worked hard without complaint.

The occupations of these people are sufficiently laborious to test the usefulness of their limbs; all but one (Case 11, a lawyer) belong to the class that work either in their homes or at their various occupations. One is a policeman on active duty in the Sixth Precinct; another, an assistant foreman in the city's fire department. In detail, the occupations are as follows: 1 lawyer, 1 policeman, 2 firemen, 2 drivers, 4 housekeepers, 1 waiter, 2 laborers, and one not stated. There are 4 women, aged

[1] A paper read at a meeting of the Surgical Section of the Academy of Medicine, February 10, 1890.
[2] On Fractures and Dislocations, 7th edition, p. 534.
[3] Beiträge zur klin. Chirurgie, iii., 2; Annals of Surgery, viii., 1888.
[4] Deutsche Zeitschrift für Chirurgie, 23; Annals of Surgery, iii., 1886.
[5] A Treatise on Fractures, p. 551.

respectively, twenty-five, twenty-eight, forty, and fifty-five; and 10 men, 5 of whom were from twenty to thirty years old at the time of accident, 3 from thirty to forty, and 2 from forty to fifty.

One may say roughly, that three-fourths were between the ages of twenty and forty.

Looking at the condition of the union, we find it bony in one instance; in two it is described as "No appreciable separation of fragments;" while in the ten remaining cases the shortest is one-fourth of an inch, the longest one and one-fourth inch, the average nine-tenths of an inch.

This corroborates the statement usually made that a ligament from one-half to an inch in length permits the functions of the joint to be perfectly executed. Several cases bear witness that a firm ligament may be formed and undergo but trifling elongation in the course of years.

Thus in Case 1 ligament measured one-fourth inch at end of six months, and the same at the end of ten years.

In Case 5 ligament was one-fourth inch long at end of six weeks; one-half inch long at end of five years and five months.

In Case 6 ligament was one fourth inch long at end of six weeks; one-half inch long at the end of five years and six months.

In Case 7 ligament was one-fourth inch long at end of seven weeks; one-third inch long at end of five years and two months.

In Case 8 ligament was ½ inch long at end of ten weeks; 1 inch long at end of three years and one month.

One patient, Case 3, after a lapse of thirteen years, shows a shortening of the ligament from two inches to three-fourths of an inch. This is doubtless due to the formation of bone in the band, an instance of which is mentioned in Hamilton's book (7th edition), page 549. Of the length of time which elapsed before the joint reached a maximum of improvement, I have no record; and can only give the general impression, gained from having seen some of these patients from time to time, that this period would be from six or eight months up to one year.

In the two cases attended with what I call bad or unsatisfactory results, there is recorded:

Case XII.—Extension incomplete; joint weak; no anchylosis. "Backs" down-stairs; at end of six years and eight months ligament one and one-half inch.

Case XIV.—Joint very weak; at end of eighteen months ligament one-fourth to one-fifth inch (on leaving hospital, there was thought to be bony union). The six cases (16, 17, 19, 20, 21 and 22) which experienced a subsequent rupture of the ligamentous union, are twenty-seven per cent. of the entire number. The accident occurred, in three of the cases, within two months after discharge from the hospital; in two others, at eleven months and one year; in one, ten years. One patient met with a second refracture after an interval of five years. In one instance (Case 20) there is noted a fracture of the lower fragment while the ligamentous union remained intact. This was also the case in one of the three cases of ruptured ligament, found among the twenty-two cases not traced after leaving hospital. This giving way of the bone instead of the ligament has been noticed by many surgeons, but we are not able to say in what proportion of cases it occurs. The results in two of these "refractured" cases were surprisingly good.

Case 20, after two "refractures," was examined seven years after the last accident and found to make flexion and extension completely and strongly, with a ligamentous union of one inch (the other patella is Case 21).

Case 22, had complete functions after eleven years, with a ligament three and one-fourth inches long and atrophy of thigh equal to one and one-half inch; works as a truckman without fatigue.

The four remaining cases lack the power of extension. Three have ligaments 1¼, 5, and 2½ inches respectively; in one the length of the ligament was not noted. One walks with a cane and two wear some support. All complain of weakness. But one has decided stiffness of the joint. Atrophy of the thigh is noted in all.

Neither the age of the patients nor the cause of the fracture, direct violence or muscular action, seem to have had any influence in the result. Of the nineteen patients, three had subsequent fractures of the other patella after intervals of one, five, and ten years respectively.

From the above details it would appear that it is possible to get a satisfactory result in about eight of every ten cases of fractured patella by the use of simple retentive apparatus, provided no accident endangers the safety of the newly formed ligament. But as the so-called "refractures" are considered by many as an accident, to which the primary fracture predisposes, it may be fairer to interpret these statistics in a different way. There are nineteen patients who had fractured patella. If we consider the refractures as part of the history of the primary accident, we have from nineteen patients fourteen good results, two of which are after refracture, and five bad results, four following that accident. By allowing, then, for the accident of refracture, we get a much less favorable percentage, still a good one, of satisfactory results—73 per cent., or nearly three-fourths of all cases.

This refinement of statistics seems to me of little value, however, for some cases have been followed for much longer periods than others, and we cannot tell what is to be the fate, in regard to refracture, of those who have been observed for but short periods. It is enough to know that this accident is a frequent one, and that its prevention is a matter of importance in the treatment.

Although, as I have already mentioned, there are numerous instances where one of the fragments has fractured instead of the ligament rupturing, it does not seem to me at the present at all proven that the ligamentous is as strong as the bony union On the other hand, it may be averred that the ligament is strong enough for all practical purposes—since many patients meet with no rupture.

In all these cases the treatment has been practically the same that was in vogue in Bellevue Hospital when I was interne there in 1872. It consists in the use of plaster-of-Paris bandages after the effusion has subsided, with the application beneath the splint of adhesive plaster strip to steady the fragments. If the patient has been seen immediately after the accident, ice-bags or cold water compresses have been applied to the knee, after a posterior splint of wood, felt, or pasteboard (and in hospital always of tin or iron, the Volkmann's splint with footboard) has been fitted to the limb. If seen several hours after injury I have discarded the use of cold or evaporating lotions, especially the lead and opium wash, which is ruinous to linen, and relied on equable compression of the joint, with cotton compresses and snug bandages, to promote absorption of the effusion; the limb has been slightly elevated on pillows. The diminution in swelling, has permitted the approximation of fragments after periods varying from two days to two weeks; on the average I should call it the fourth or fifth day. When the gypsum bandage is applied, the limb has been elevated and the upper fragment has been drawn down and held by the loop of plaster, the centre of which rests above it on a pad of lint or gauze, while the ends pass obliquely downward to the upper part of the calf and the posterior surface of the leg. The lower fragment is similarly supported. It is possible to tilt the fragments by this manœuvre and so separate their upper margins. Their position should be noted and the first turns of the muslin or flannel bandage, which protects the skin from the gypsum, should be passed circularly about the centre of the knee, to counteract this tendency to tilt. I believe the plaster strips are not necessary, and that one could accomplish quite as much by simply using the "figure-of-eight" turns of a bandage. After the tendency to effusion has subsided, there is no tendency to drawing up of the fragments. The patient sits up after the gypsum splint is dry; if there be much shrinkage of the limb and the splint gets loose, it may be renewed. After six or eight weeks it has

been removed. and its posterior half or another hard splint of leather is applied and the patient allowed to walk. I have sometimes allowed them to walk with crutches after the fifth week; and it has seemed an advantage to have the first efforts at walking made a few days before the gypsum splint has been removed. For the next month or six weeks the posterior splint has been always worn by day; the thigh and knee vigorously shampooed and kneaded; but care has been taken not to make motion to flex the joint and thereby stretch the ligament. Electricity may be used if there is much atrophy of the thigh. At this period (end of three months) I have usually found patients able to bend the limb but slightly—say not quite to forty-five degrees from the straight position, but the power of extension has been good. Occasionally, in weak or nervous patients, the splint has been used for an additional month—making the period of enforced stiffness four months.

From this point the treatment has been merely the exercise of care to avoid accident and, by gradually increasing the work of the limb, to permit the functions to be restored. I have generally advised patients to use a cane during all this period, partly to remind them to be careful and partly to aid them in case of misstep; and have suggested the occasional use of a short splint behind the knee when any extra exertion was to be made; but I have learned to discourage the use of any kind of bandages or knee-caps after this period, and permitted their application, as in the case of the splint, only at odd times as a "reminder." It has been often necessary to urge patients not to favor the injured knee in the ordinary use of it. Passive motion I have rarely recommended and, with most surgeons, I believe it unadvisable. In one of the reported cases it produced a refracture, and it would be an exceptional case in which it would be indicated.

In Case 1, at the end of four months, the ligament was short and strong and the extension complete, but the woman was timid and would not make proper use of the joint, and flexion was imperfect. I advised forcible bending in vain, but at a religious feast she was commanded to kneel down, and did so, snapping the light intra-articular adhesions and giving perfect freedom of movement.

The daily use of the limb, with friction of the knee at night, and no more forcible measures than the effort to bend the knee while the foot is on the floor—an exercise which should be practised daily, are quite sufficient to restore the functions in the majority of cases. There are no accidents to be expected from this treatment in the hands of even the least experienced practitioners. In but one case of the entire number has there been any reaction from the pressure of the splint; then a fenestrum was cut and the effusion found to have returned. It promptly subsided. There is no objection to cutting a fenestrum, or trap, in every splint a day or two after its application, and I would advise it if one has not constant experience in using plaster bandages. I have no doubt the use of any other coaptable material would give as good results, and I would expect to accomplish as much with felt, or leather, or hat-lining. But the gypsum is the easiest and most convenient to handle, and I can conceive no possible objection to its use. Some surgeons still adhere to the idea that it causes atrophy and may make pressure dangerous to the circulation, and are opposed to its use in general. These objections do not hold in the application to this fracture; it is not recommended until the swelling has subsided, it is always preceded by a layer of cotton and muslin bandage, and the inexperienced doctor, or one at a distance from his patients, may insure against accident by cutting down the splint before it has fairly set, or making a trap door.

The treatment after this manner lasts about six months, but involves a period of rest and confinement for only six weeks. A second period of six weeks can be spent in any kind of occupation or amusement that can be carried on with a knee stiffened with a ham splint. During the following three months much care must be exercised to prevent accidents, and this may entail loss of time or money in the case of those who pursue arduous occupations. But I do not think the period of treatment can be advantageously shortened; and I feel confident that the number of good results in my cases would have been larger if all the patients had been advised at frequent intervals during the six months' treatment. I am not, however, so confident as to overlook the fact that the results might be better. Between the sixth and the ninth months the patient should be steadily gaining. If there be a marked atrophy of the thigh, without much separation of fragments, the development of the quadriceps should be stimulated to the utmost. If the ligament and joint functions begin to weaken I should advise wiring the bone; if done at this period the operation would be easier than when, at a later time, the fragments are wider apart. For stiffness I should hesitate to interfere. Better a strong and stiff joint than a weak and limber one. It would be rare to find a case which could not be flexed enough to keep the foot out of the way in sitting down. But if such stiffness existed with impaired extension, I should break up the adhesions first and afterward wire the fragments.

The treatment of rupture of ligamentous union should be a conservative one until it is apparent that the result is to be unsatisfactory, when it may be wired. I have operated on one such case about six weeks after the first fracture. The result was bony union, with flexion to ninety degrees, but complete power of extension. At the end of two and a half years, however, the patient complains of weakness of the limb, and there is atrophy of the thigh (one inch).

Case 22, refracture after six months, treated conservatively, with a ligament of three and a half inches, has a limb quite as useful at the end of eleven years. In view of the many defective results after wiring for refracture, and the accidents that have followed the operation in general, and further, from the numerous instances of fairly useful limbs with long ligaments, I should only urge the operation in a very promising case, and with the patient's knowledge of its risks and uncertainties. The same may be said of old ununited fractures. The only case I have treated was operated upon with fatal result (Case III., p. 318). Where no operation is undertaken, an apparatus may be worn to provide for the motion of extension.

In compound fractures there is no question as to the propriety of wiring. The only case I have to record was operated upon in 1882; result, death from septicæmia (Case II., p. 318). The fracture was comminuted.

Although my experience has been limited in recent fractures to the simplest conservative treatment, it will not be out of place for me to offer some criticisms on the more severe operative procedures which have attracted so much attention. First, of wiring the patella. it is needless to say that, while it made its entrance into practice by the advocacy of the pioneer in antiseptic surgery, Sir Joseph Lister, it has never received general support. One does not need to quote the discussions of the French Société de Chirurgie, or of the Medical Society of London, where the majority of speakers opposed it; nor to be familiar with the collection of statistics which speak against it—one of the most complete of which, Dennis [1] has given to the profession of this city; it is sufficient to know that death and disaster from amputation and suppuration and anchylosis have followed its performance in the hands of the many, and that we have no evidence that when, in the hands of the few it has proven safe, the ultimate results have been better than those by non-operative methods.

It is sufficient to condemn it that its advocates admit that its "success depends upon carrying out the smallest detail, and that it should never be undertaken by an ordinary practitioner." [2] But it is furthermore of interest to know that when its results are compared with those of

[1] New York Medical Journal, April 3, 1886.
[2] Quoted from Dennis's paper (1886).

the conservative treatment, all the cases being in one hospital, the judgment of an experienced surgeon is against it. It is not necessary to go into details. I will merely quote the conclusion of Brunner, after narrating the experience of the Zurich clinic for twenty-three years: "The previously adopted bloodless methods are appropriate, and the suture by operation of a fresh fracture of the patella is only justifiable when it is compound." [1]

I believe that there are some surgeons active in this city, who practise in recent cases the operation, and I beg, if any of them are present, that they will explain by what process of reasoning they can call it a justifiable procedure.

But there are other methods at present in vogue, to which the name operative may be correctly applied, since they necessitate a wound. Schede proposed to hasten the approximation of the fragments by puncture and irrigation of the joint. Aspiration has also been suggested. There are no accidents recorded from these procedures, but they have often failed to accomplish the purpose. I punctured the joint with an aspirating needle in two cases which presented a rapid reaccumulation. When a trocar has been used the joint cavity has been found to contain so much blood that incision and thorough washing were found necessary; and this has been rightly considered almost as serious an operation as wiring.

Efforts to bring the fragments together by subcutaneous suture of silver wire, proposed by Volkmann, and modified by Kocher, who called it the "peri-patellar suture" have not been happy in their results. Brunner gives seven cases of Kocher's method, with one death, one subsequent operation of wiring because of suppuration, and in the remaining cases which had no reaction there was but one bony union. This peri-patellar suture, with silk instead of wire, has been used in the New York Hospital by two of my colleagues, who, I hope, may be able to give a good account of it. I have seen one case where suppuration ensued, with the most threatening septic symptoms, and the end was a stiff joint. Malgaigne's hooks have been used with and without the protection of antiseptic dressings. Mr. Treves, of London, speaks favorably of their use, though he offers no cases in evidence. They have been modified by Levis, of Philadelphia, and Otis, of this city, but we have no reports that give any idea of the ultimate result—no evidence that anything has been gained by their use. I look upon all these procedures as unnecessarily complicated. They aim to get bony union, but they are attended with risk; if they are adopted it must be in the face of evidence that ligamentous union will give a useful and strong limb, and that this can be accomplished by safe and simple measures.

A. Cases of Fracture of Patella treated without Operation.—Case I.—F——, a seamstress, aged forty, weighing over two hundred pounds, with transverse fracture of left patella from falling down stairs, December 16, 1879. No treatment for three hours—one-half inch separation—moderate swelling. Gypsum splints over adhesive plaster retention strips. Bandage renewed once in six weeks; removed at end of six weeks. Ligamentous union, one-eighth inch separation. Flexion to forty-five degrees. Short posterior leather splint for five weeks more. Movement increased. End of fourth month, flexion to ninety degrees and extension perfect. Gentle passive motion recommended, but declined. Flexion suddenly increased by an effort to kneel at a religious feast. Sixth month, motions full, free, and strong, and no fatigue experienced except in using sewing-machine. Separation from one-fourth to one-half inch. End of ten years and two months, condition unchanged; but ligament a trifle longer. All joint functions satisfactory. No atrophy. Physician, Dr. J. B. Anway.

Case II.—S——, fireman, aged twenty-seven, fell, striking knee, September 4, 1877. Transverse fracture of right patella with one-inch separation and considerable effusion. Posterior splint, compression with cotton and bandage for four days, then fenestrated gypsum splint over retention strips of adhesive plaster for six weeks, followed by short posterior splint for six weeks more, with massage. Condition at this date not noted. At end of twelve years and five months is active member of the fire department. No difference in circumference of limbs, function of knee perfect, and no appreciable separation of fragments—a bony ridge existing at site of fracture. Chambers Street Hospital. Nine cases (II., III., IV., V., VIII., X., XIV., XIX., XXII.) were exhibited before the section.

Case III.—D——, a policeman, aged twenty-four, struck knee in falling, February 19, 1877. Transverse fracture of left patella with moderate effusion. Same treatment as above. At end of eight months it was noted: "Functions perfect; separation of one-half inch in extension and two inches in flexion."

At end of thirteen years, a firm ligament, three-fourths of an inch in length, both on flexion and extension. Circumference of thigh at middle, one inch less than right. Functions perfect. Weight, over two hundred pounds. On active police duty, and finds the limb as serviceable as its fellow for all purposes. Chambers Street Hospital.

Case IV.—A——, hack-driver, aged thirty-nine, fell from wagon on knee, May 24, 1881. Transverse fracture of right patella at middle. Treated for six weeks with gypsum splint over retention strips of adhesive plaster and elastic webbing. Walking with posterior splint for four weeks more. At end of eight and a half years the joint functions are found perfect, no atrophy, the limb quite as useful as the other. Separation, three-fourths of an inch.

Case V.—B——, male, aged twenty-three, fell on the knee thirty hours before admission, June 9, 1880. Transverse fracture of left patella at junction of middle and lower thirds. Gypsum splint seventh day. Discharged at end of six weeks, walking well, with one-fourth inch separation. Nine years and five months later: "Functions perfect; no difference in measurement of legs; in extension, separation of one-half inch; in flexion, one and one-fourth inch."

Case VI.—S——. a housekeeper, aged twenty-five, fell, striking on knee, March 11, 1884. Transverse fracture of right patella with separation of one inch and slight effusion. Posterior splint and compression with bandage. Three days later, plaster splint with adhesive straps. At end of six weeks discharged, walking with posterior splint; separation one-fourth inch. At end of five and a half years: joint functions free and strong; separation of fragments in extension, one-half inch; in flexion, one and one-fourth inch.

Case VII.—M——, male, aged thirty-eight, felt knee "give way" while lifting, July 23, 1884. Transverse fracture of left patella at middle, with two and one-half inches separation and much effusion. Gypsum splint in forty-eight hours. Discharged, with posterior splint at end of seven weeks. Separation, one-fourth of an inch. Examined five years and two months later: Functions perfect; no atrophy; separation, one-third of an inch in extension and one inch in flexion.

Case VIII.—S——, a driver, aged twenty-six, fell from wagon, striking on right knee, August 8, 1886. Transverse fracture of lower from upper two-thirds of patella. Same treatment as above. Gypsum splint on eighth day. Discharged at tenth week, wearing posterior splint, with one-half inch separation. Condition noted at end of three years and one month: Extension a few degrees short of being complete, with separation of one inch; flexion to ninety degrees only, with two and one-half inches separation. Leg not perceptibly weaker, than other. Can go up and down-stairs readily, but has to move injured leg rapidly. Two weeks after leaving hospital strained the joint, which was then kept in splint for three weeks.

Case IX.—H——, housekeeper, aged twenty-eight, fell down "doubling" knee under her, six hours before admission to hospital, August 14, 1888. Transverse

[1] Deutsche Zeitschrift f. Chir., 23.

fracture of right patella, at middle; separation of three-fourths of an inch. Splint at end of two weeks; removed at end of nine weeks; discharged at end of tenth week. At end of one year and two months there is no appreciable separation of fragments, and movements are free, but she cannot run fast, and knee feels weak after going up several flights of stairs. Had diabetes mellitus at time of accident.

Case X.—D——, male, aged forty-five, struck knee on pavement, September 2, 1887. Transverse fracture of left patella. Seventh day, gypsum splint. At end of two years and one month "there is a depression felt running transversely across middle of patella, but no appreciable separation. Extension complete; flexion to eighty degrees; thigh, one and one-half inch less in circumference. He is sure that the limb is just as strong and as serviceable as ever." New York Hospital.

Case XI.—R——, a student, about twenty-two years of age, who had made a creditable record as a high jumper in college athletics, fell on the right knee at Cedarhurst, May 12, 1888. At New York Hospital, a few hours later, he was found to have sustained a transverse fracture of patella, the lower third being separated by a slight interval. Effusion moderate, so that the following day a gypsum splint was applied, and he was transferred to his home on Staten Island in care of Dr. Carroll, of New Brighton. Second splint, a week later; worn five weeks, and replaced by "Tiemann's knee brace," which was worn five or six weeks while the patient made a voyage to Europe. The functions of the limb returned slowly. Six months later the union was by a short ligament; motions were free, but extension not so strong as on the sound side. The thighs were, before the accident, a marvel of muscular development owing to his frequent exercise. Examined, one year and nine months after injury, there is found a firm ligament less than one-half inch long. The right thigh is one half inch less in circumference than the left. The motions are free and as strong as ever, so he avers; he can run and dance, though he has not attempted jumping.

Cases XII. and XIII.—H——, male, aged thirty-eight, broke left patella at its middle, transversely, in getting out of wagon, March 29, 1883. Third day, gypsum splint; sixth week, discharged with posterior splint. At end of six years and eight months the joint is weak. He has to go down-stairs backward. No anchylosis. Extension not complete (155 degrees). Ligament in extension, three-fourths of an inch; flexion, one and one-half inch. Chambers Street Hospital. The left patella was fractured ten years and eight months previous to examination by Dr. Powers; treated by the late Dr. F. H. Hamilton. This limb is functionally perfect; the fragments united by a strong band one-fourth of an inch in length.

Case XIV.—R——, male, aged thirty, direct violence (an iron gate fell across knee), July 20, 1880. Transverse fracture of right patella, lower fragment very small. Second day, gypsum splint; at end of six weeks, no separation. Union thought to be bony. At end of eighteen months, there was "a separation of one and one-half inch on extension, and four or five inches on flexion, and the joint is very weak." Chambers Street Hospital.

Case XV.—McG——, female, aged fifty-five, fell on knee, May 20, 1884, fracturing right patella transversely. Gypsum splint on eighth day and posterior splint at end of six weeks. Died five and one-half years later. Her friends say that she walked well, up and down-stairs, without limp or assistance. New York Hospital.

Case XVI.—H——, male, aged forty, refractured right patella, June 4, 1887. The previous fracture was in 1877. Next day, gypsum splint, in which fenestrum was cut twenty-four hours later, to apply evaporating lotion. Discharged in six weeks. At end of two and one-half years, fragments are separated by ligament one and one-half inch long; thigh very much atrophied; no power of extension, and flexion limited by stiffness which has persisted since he left hospital; obliged to wear heavy anterior brace. New York Hospital.

Case XVII.—N——, male, aged forty-five. fell on knee, February 10, 1885, sustaining transverse fracture of left patella at middle. Gypsum splint fourth day. Examined four years later; has no power of extension; obliged to wear splint; apparently no ligament exists, and fragments are five and one-half inches apart on flexion. Thigh at its middle is three-fourths of an inch, at its lower third one and one-half of an inch less than the right, and the calf is one inch less in circumference than the other. He says that two months after discharge from hospital he slipped and strained the knee and cracked the posterior splint. He continued to walk with a splint and had no treatment.

Case XVIII.—His right patella was fractured six years ago. He was treated at Bellevue Hospital with gypsum splint. The functions of the knee are now perfectly performed. There is a firm ligament three-fourths of an inch long on extension, one and one-fourth inch long on flexion, and the limb is strong.

Case XIX.—C——, male, aged forty, fell on knee October 23, 1881. Transverse fracture of right patella. Gypsum splint on the ninth day. Seventh week, discharged with posterior splint; separation, five-eighths of an inch. One month later, strained knee and fragments separated. Has walked with cane ever since. At end of eight years, atrophy of thigh two inches; no anchylosis; extension to a little beyond a right angle. New York Hospital.

Cases XX. and XXI.—C——, housekeeper, aged twenty-three, fell on right knee, January 10, 1878, refracturing right patella, which had been broken about a year previously. The ligamentous band of the previous fracture was found intact, and the lower fragment broken transversely at its middle, with but slight separation of the fragments. Treated with gypsum splint for seven weeks. The functions of the joint were gradually regained. Five years later she experienced a third fracture or rupture of the ligament, which was treated again with gypsum splint. Of this there is no record. But at the present date, twelve years from the first, and seven years after the last fracture, the functions of the joint are found to be practically perfect. The ligament is strong and only one inch long on flexion. There is no trace of the ligamentous union of the fragments of the lower half which was detected at the time of the second fracture. No comparison can be made with the other limb, for the left patella was broken about five years ago. She was treated with gypsum bandage in hospital. The only record of result is that on discharge one could "lay little finger between the fragments." Two months after discharge she ruptured the ligament while going up-stairs, and was treated at home. After removing the splint there was stiffness, for which passive motion was made by her physician. During one effort, according to her account, the ligament was severely strained. Now the left knee is decidedly weak. Extension is imperfectly performed, the ligament is two and one-half inches long in flexion.

Case XXII.—H——, male, aged twenty-nine, kicked by horse, March 12, 1878. Transverse fracture of right patella. Gypsum splint fourth day. Discharged six weeks later with posterior splint. He says the limb was as strong as ever six months afterward. February 5, 1879, ruptured the ligament. Same treatment. At end of eleven years there is found a ligament three and one-half inches long on flexion, an atrophy one and one-half inch of thigh, and one-half inch of calf. Walks up and down-stairs easily, and works as truckman without fatigue, but favors the injured limb in making unusual exertion.

B. Cases of Compound and Ununited Fracture of Patella Treated by Suture.—Case I.—S——, male, aged thirty-two, fractured right patella four months before admission to New York Hospital, March 30, 1887. Walked without any splint at end of ten weeks. Refractured two weeks later. On admission, four weeks after last accident, and four months from date of fracture, he has "weakness" in the joint, there is a separation of one inch, and the power of extension is greatly diminished. There

is fluid effusion in the joint, and one and one-fourth inch atrophy of thigh. The effusion disappeared under the use of thermo-cautery and compression. Wiring patella under ether, April 19, 1887, through a longitudinal incision; wire left in; rubber drains; bichloride dressing; no suppuration or fever; discharged in five weeks, wearing short posterior splint. At end of two and one-half years: weight, 215 pounds; circumference of thigh, one inch, of calf, one-half inch less than left; perfect power of extension; flexion to ninety degrees only; bony union; he says knee feels weak and he is afraid to run.

Case II.—McM——, male, aged fifty, fell through hatchway, striking on knee, May 10, 1882. Compound, comminuted fracture of left patella; loose fragments removed and remainder sutured with wire; death on eleventh day from septicæmia. Chambers Street Hospital. By Dr. W. S. Halstead, Acting Attending Surgeon.

Case III.—S——, female, aged twenty-one, with ununited fracture of left patella; result of fracture one year ago and subsequent refracture. No power of extension; flexion good, moderate atrophy of thigh. Wiring with iron wire under "Lister." October 23, 1878. Fragments only imperfectly coapted, a triangular interval left between them. Suppurative arthritis and abscesses in thigh. Death from exhaustion on January 6, 1879. Chambers Street Hospital.

THE TREATMENT OF TYPHOID FEVER; A REVIEW OF RECENT DISCUSSIONS.[1]

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The frequent revival of this subject in our medical societies is evidence not only of its incalculable importance, but also of the instability of our present therapeutic methods.

Brilliantly and learnedly though we may discuss typhoid fever, favorable though our individual statistics may be, still the figures of our Board of Health reports bid us "mend our ways" in language more eloquent than human tongue or pen can formulate. Twenty-five to forty per cent. is the death-rate from typhoid fever in our American cities; twenty-six per cent. is the mortality of the New York hospitals in recent years, according to Dr. Delafield's investigations. The import of these figures cannot be overestimated. May they be changed? Happily, there is a method of treatment which has the sanction of long usage, the authority of judicious clinical observers, and the evidence of unimpeachable statistics. To further the universal adoption of this method, I propose to devote all the energy of my nature, because I am a proselyte myself. I said, only a few years ago, from this platform: "Plunging a typhoid fever patient into a tub of cold water may suit a German soldier, but it is not adapted to our American constitutions." I have lived to regret these words of derision, and repenting thereof, I warn my colleagues against this very prevalent error.

In one of the recent discussions a hospital physician doubted the testimony of Vogl, Brand, Juergensen, and others, although they speak from several thousand cases, to the fact that the cold bath does not "produce the impaired circulation, cyanotic condition of lips and extremities, and bad pulse, which he had seen in cases in which even the cold pack and cold affusions produced these untoward symptoms." That this gentleman has the correct conception of the true rationale of the modern cold bath in typhoid fever is evident from his assertion that "the general nerve-depression was the main factor to be considered, and that it afforded the true explanation of the efficacy of the cold bath, when judiciously used." Despite this sound doctrine, he said, in the beginning of his remarks, that he was "personally opposed to the cold bath treatment." "In typhoid fever, however, with high temperature, it had seemed to him desirable to employ the cold pack or cold affusion, and he did not doubt that in some cases it was of real benefit." It would be difficult to reconcile these views, did we not find an explanation in the different methods referred to. The cold pack differs vastly in effect, and in its indications from cold affusions. The pack, if properly administered, is a mild antipyretic and soothing (sedative) procedure, while the affusion is, next to the douche, the most active stimulating procedure known to hydrotherapy. How these can be classed together, in their effect upon fever cases, is a problem I am unable to solve, and it becomes more difficult still to discuss the effect of these distinctly opposite measures as analogous in effect to the bath at 65° F., which differs entirely from both. The truth is that our conceptions on the subject of hydrotherapy are exceedingly vague. This is, perhaps, the chief cause of the absence of unanimity upon, if not of the antagonism to, its application in typhoid fever, in which its grandest triumphs have been achieved. This fact was clearly demonstrated again in one of the recent discussions at the Academy of Medicine. The author of the essay replied to the charge I felt called upon to make, that the cold bath is rarely applied methodically in this city, according to its most successful method (Ernst Brand's), that my "lament was not justified, so far as he was concerned, because he had resorted to the bath ever since Liebermeister first demonstrated its advantages." Now, it has been distinctly demonstrated that Liebermeister, although more successful than those who follow the expectant plan, has not attained the success in his treatment by baths which has crowned the efforts of Juergensen, Vogl, and others, because he has not followed the strict method of Brand, which is antifebrile, and not simply an antipyretic method. Liebermeister is the advocate of strict antipyresis, and he originated a plan of treatment quite distinct from that of Brand and his followers, a plan whose aim it is to produce by cold baths decided remissions in the fever, during which he administers large doses of quinine, with the view to maintain these remissions. His method gave a mortality-rate of 10.8 to 18.8 per cent. in the Munich Military Hospital, while the strict Brand method never exceeded 4.7 per cent., and averaged lately 2.7 per cent. in the same hospital.

Hence, if the gentleman referred to followed Liebermeister's method, it is not surprising that his results discouraged him.

During one of the discussions at the Academy of Medicine, on January 16th, I took occasion to refer to the vagueness of the term cold bath in this city, by citing, as examples, two cases occurring in two of our largest hospitals, under two of the gentlemen who had spoken disparagingly of the cold bath treatment. One of these, as related to me by the house physician, had the bath (?) administered by being wrapped in a sheet and sprinkled with ice-water until the temperature fell to a satisfactory point; the other was also wrapped in a sheet, which was kept saturated with ice-water by a sponge until the temperature was reduced from 106 to 101°. Surely these are not fair specimens of the cold bath treatment, and the fatal result in both cases cannot fairly be charged to this method. The experienced hydrotherapeutist never uses ice-water for a prolonged application. Water below 50° is sometimes used in the douche for ten to twenty seconds. But the aim of all hydrotherapeutic measures is to refresh, to stimulate the nerve-centres, never to induce a sedative effect. This must be clearly understood as the first principle of scientific hydrotherapy, and it is even well understood by the empirical hydropath to-day.

I submit, therefore, that until we adopt an approximately uniform cold bath treatment of typhoid fever, our discussions of this method will be nugatory, and our patients will continue to swell the mortality lists.

It has been objected to Brand's rule for bathing, that the intelligent physician should not be hampered by strict

[1] Read before the Section on Theory and Practice of Medicine, New York Academy of Medicine, February 18, 1890.

rules, that he should be allowed to use his judgment in each individual case. This is a valid objection. But have we not a rule, in other cases, which the profession have followed with advantage for many years? The successful treatment of a tertian intermittent (for instance) depends upon cinchonization of the patient before the paroxysm is due. Whether it is given in one dose, three hours before the paroxysm, or in several doses up to this time, is left to the judgment of the practitioner. But what success would accrue to the man who administered his large dose of quinine immediately after the cessation of the paroxysm? As a result, thirty six hours, or more, would elapse before the next paroxysm, during which interval the cinchonizing (protective) effect would cease. What success would another man obtain if he insisted upon using a tincture, decoction, or the powder of Peruvian bark instead of quinine for the treatment of a malarial remittent? Both would be classical methods (new and antiquated) of managing the malarial fevers; but they would be as flagrant violations of the recognized principles of this treatment, as is the resort to packs or spongings as substitutes for the Brand bath in typhoid fever. It does not follow, in the one case any more than in the other, that the physician must blindly follow the rules laid down. Quinine must be administered according to the condition of the patient and stage of the disease; but the rule to cinchonize the patient before the expected paroxysm is due, must never be lost sight of. The bath may be a little warmer, a little shorter, or longer, but the guiding principle, to keep the temperature three-hourly below 103° (merely as a test of its antifebrile action) must not be lost sight of. In the one case cinchonization protects the patient against the return of the attack, in the other the reduction of temperature indicates a condition of the nervous system which protects the patient against the deteriorating influences of the infective process. A slipshod, half-hearted method in the one case is as detrimental, if not so often fatal, as in the other. Another analogy may be drawn in the salicylic treatment of rheumatic fever. It has been well ascertained that pure salicylic acid or its compounds will control the pains and ameliorate the course of rheumatic fever. To accomplish this purpose, the physiological effect of the salicylates, tinnitus aurium, is in the majority of cases necessary. Twenty grains, repeated at definite intervals, usually suffice. The effect upon the distressing symptoms is as positive in relieving the pain, diminishing the fever, etc., as is the effect of the bath at 65°, in typhoid fever, in refreshing the system, brightening the patient, improving the appetite, reducing the temperature, etc. Doses of one to two grains of salicylic acid administered hourly, or five grains administered every two hours, would accomplish about as much as sponging or a wet pack will do in typhoid fever; these small doses will, after accumulating in the system, afford some relief; the sponging and pack will afford some comfort. But if the effect is to be decided and beneficial the rule must be adhered to, to obtain the physiological effect of the remedies in both cases, although we may deviate in minor points from it. It would be as absurd to insist upon the strict three-hourly bath of 65° in the third week of a feeble typhoid case, as it would be to insist upon twenty-five grains of salicylic acid in an advanced rheumatic case, whose heart is feeble, or who has gastro-intestinal disturbances. Entire abstinence from or a modification of the treatment is indicated in both cases. The therapeutic principle remains the same.

Brand's rule, however, is not inflexible, as the following extract from a letter received on Saturday, February 15th, from Dr. Brand illustrates. Referring to a case where bath treatment was detailed in one of our journals, he says: "By following my rule is not to be understood such treatment as was given by Dr. —— to the child, which was so far reduced in strength and nerve-power that it should not have been put into a cold bath, but into a warm one, until it gradually became accustomed to the cold bath, for twenty-four hours. To me it is surprising that Dr. —— did not obtain greater disadvantage from the low temperature used in this case; it was a special piece of good luck. I always use warmer baths for twenty-four hours, usually temperature of the room, if the patient has been ill over four days; often, also, from the beginning." From this extract it will be gathered that Brand does not advise the plunging of every case into a bath of 65° F. without regard to individual condition. The truth is, that in no method of treatment is good judgment more necessary than in the management of typhoid fever by the cold bath.

As has been well said by Dr. Kinnicutt, in summing up the discussion before the Practitioners' Society, "In the United States opinions upon the result of Brand's method of treatment could only be formed through statistics, which, except in a few isolated cases, had not even been attempted. We were, however, very familiar with the expectant plan of treatment, and the mortality-rate of typhoid fever so treated was very high. A study of Brand's statistics should lead to an effort, on the part of hospital physicians, to give a thorough trial to a method of treatment which had been followed, apparently, by brilliant results." This wise suggestion must be applauded.

But how is this method to be tested, if, as is evident in the recent discussions, there is no uniform method of treatment; when gentlemen class cold sponging, the wet pack, the ice-sprinkled sheet, the graduated bath of all temperatures, from 70° to 90° F., as the cold bath treatment? It is remarkable that American physicians, who are usually so practical and ready to utilize the most successful methods, have so long stood aloof from this well-proven treatment. This is due, it would seem from recent and previous publications, to a desire to adopt some modification of a seeming harsh measure. We are not accustomed to discipline our patients, and yield too readily to their prejudices against cold water. Brand said, in a recent letter to me: "Only then may we expect a definite introduction of the method in America, when your medical men will decide to study the question thoroughly. Whoever is afraid of the cold bath (and everybody seems to be, the professors at their head!), whoever fears taking cold from it, whoever does not understand the action of the bath upon the healthy and diseased organism, should not treat typhoid with water."

The opinion expressed in the recent discussion, that "it is the greatest possible mistake to bring these data from Germany and apply them to the United States," is singular, since we do not make such distinction with regard to other therapeutic agents. On the contrary, the statistics furnished by Juergensen and Vogl, for instance, are the best possible guide for this or any other country, because they are obtained from hospital practice, civil and military, and they represent the comparative merits of various methods. Vogl is the chef of the Garrison Hospital at Munich. He offers us the records of eight thousand three hundred and twenty-five cases of typhoid fever treated there during forty-seven years. (Military records in Germany are proverbially accurate.) Vogl mentions each year the type of the disease, derived from symptoms and autopsies, the treatment pursued, and the results. The mortality ranges from 40.3 per cent. (1843) to 23 per cent. (1877 and 1878). Since 1875, when the cold bath treatment was systematically begun, the mortality per cent. has never exceeded 4.7 per cent., and the average was 2.7 per cent.

May we trust these statistics, or not? A brief examination will decide this point for any fair-minded person. We will take, at random, the following extracts as an illustration of how this report is made:

1841: 180 cases, 57 deaths, 31.7 per cent. mortality.

Remarks.—Frequent complications, gangrene of toes and eyelids.

Treatment.—Absolute diet, aqua chlor. internally.

1842: 165 cases, 64 deaths, 38.8 per cent. mortality.

Remarks.—Granular matter, size of pea to hazelnut found in spleen and mesenteric glands.

Treatment.—Evacuation according to nature's pointing, mildly antiphlogistic, sinapisms, vesicants, cold fomentations. In plethoric subjects, general or local bleeding; in the last quarter small doses of calomel, in single case venesection.

1850: 181 cases, 24 deaths, 13.3 per cent. mortality.

Remarks.—Nurses frequently attacked, strict attention to diet, light covering, ventilation, frequent change of bed, occasionally cold compresses and packs. Disinfection of surroundings and evacuations. Prepared charcoal the most effective remedy for diarrhœa. Inhalation of sulphuric ether for laryngeal ulcers.

1851: 222 cases, 45 deaths, 20.3 per cent. mortality.

Treatment.—Calomel, cold compresses and affusions (2d trimester). Emetics and expectant, entire wet pack twice to three times daily. Vinegar baths. Aqua chlor. internally.

1859: 351 cases, 55 deaths, 15.1 per cent. mortality.

Remarks. Treatment.—Two to three times daily cold douche on head and neck in warm bath. Complication, ulcers of cornea.

1866: 327 cases, 52 deaths, 15.9 per cent. mortality.

Remarks.—Epidemic in Maximilian II. barracks; three nurses sick; very severe cases; numerous roseola spots, ecchymoses, petechiæ, bedsores, otitis, diphtheritis, etc.

Treatment.—Cold water wrappings, bathings, and packs without special result. Diphtheritic complications treated successfully by hot vapor.

1872: 425 cases, 62 deaths, 14.6 per cent. mortality.

Remarks.—There was a severe epidemic in the city also; 12 nurses, of whom 4 died, affected; 27 house-infections, with 5 deaths.

Treatment.—Constant ventilation, change of bed; baths of 17° when temperature reached 39° C. and over, every two or three hours. Each patient averaged 36 baths. Ice-water washings.

1874–75: 141 cases, 31 deaths, 32 per cent. mortality.

Remarks.—Severe complications, great heart feebleness; bloody stools; twice pulmonary hypostasis, larynx affections; cholera twice.

Treatment.—Baths of 18° R.; thirty-two to each case; stimulants.

Since 1875 two methods of treatment were pursued at two different stations of the garrison. In Station I. the combined method, consisting of baths of temperature of the room, with quinine three to four grammes daily, salicylate of soda; and in Station II. the methodical bath of Brand, consisting of a bath from 60° to 65° F., for fifteen minutes, whenever temperature reached 103° F. No medicine, freely ventilated barracks.

Results.

Combined Treatment.

Number of cases	667
Mortality	7.6 per cent.
Average stay in hospital	40.7 days.
Average duration of fever	1.9 week.
Percentage of complications	102
Average number of diarrhœas per day and person	1.9

Strict Bath Treatment.

Number of cases	221
Mortality	2.7 per cent.
Average stay in hospital	47.3 days.
Average duration of fever	1.8 week.
Percentage of complications	65.2
Average number of diarrhœas per day and person	0.7

This report continues by fully enlarging upon the nature of each complication, and with a minute, practical, and judicious analysis of the bearing of the treatment upon every essential symptom. Special stress is laid upon the necessity of thoroughly ventilated and cold barracks, and ample nutrition. This report must be read in full in order to appreciate it. It may be said, without fear of contradiction, that no therapeutic question has been so thoroughly canvassed as has been done in this report. Can anyone familiar with its source deny credence to its statements or gainsay its deductions? It affords testimony that is unimpeachable to the effect upon the same type of patients (soldiers of about the same average age and condition of health) under the depleting, nihilistic, expectant, and water treatment, and also striking evidence on the difference between a combined water and medicinal (antipyretic) method and the systematic Brand (antifebrile) method. The numbers are sufficiently large to entitle them to respect, and the periods are sufficiently long to exclude possible errors due to more or less virulence of types in the disease. It demonstrates the interesting point that the combined method at times reached quite as high mortality percentage as in many of the years preceding, when the expectant treatment was employed; but that the systematic, unremitting bath treatment (Brand's method) never exceeded in seven years 4.7 per cent., and averaged 2.7 per cent., neither one of which figures had ever been reached before (the lowest was 9.9 per cent. in 1865, under quinine and camphor treatment; the next, in 1869, 11.5 per cent.).

That the baths must be systematically used according to the rules laid down by Brand, in order to insure success, is clearly demonstrated by the report of 1875 to 1876. Although the treatment was by baths averaging thirty-two to each patient, the temperature of the bath was 72.5° F., only 6½ degrees below the temperature required by the Brand method. The mortality was thirty-two per cent.; severe complications were not prevented. This experience inculcates the lesson we have so often learned in this country, that a half-hearted execution of the Brand method is not as useful as the expectant symptomatic treatment.

If scepticism ventures to cast a doubt upon the testimony of Vogl's copy from the military reports, this doubt will be shaken by confirmatory evidence from other and independent sources. In the Poliklinik at Tübingen Juergensen had observed even better results. During nine years 217 cases were treated by strict bathing, according to Brand. Only one of these died. Juergensen claims "a powerfully stimulant influence upon the central and reflex organs; he uses cold compresses for diarrhœa, and continues to bathe even when there is intestinal hemorrhage."[1] Into this clinic, we are informed, most cases are brought early, because the neighboring country people have great faith in Dr. Juergensen. Is it fair to doubt his statistics, furnished by Betz, his chief of staff?

If there exists any doubt, further proof may be obtained from the official army reports of the second German army corps, whose mortality was reduced from 26.3 per cent. to 4.3 per cent. by systematic bathing. The latter was so conspicuously successful that an order advising its general adoption in the army was issued by the surgeon-general. These statistics have been regarded with suspicion in one of our recent discussions. But if we reflect that these military data have long been open to inspection, and have never been doubted by the numerous antagonists who have in Germany broken lances against the Brand method, all objection must be silent. That these reports confirm the statements of Brand, the originator of the method, is important, because this gentleman has been unjustly charged with partisanship for his own creation. He had pursued the practice for thirty years, almost entirely in a private clientèle, with the result of one death in three hundred and forty two cases. But it must be remembered that this marvellous success was due to the strictest attention to detail, and the subjection of every case to the bath treatment that showed the slightest suspicion of typhoid symptoms. It is only by this course that cases may be brought under the influence of the cold

[1] In this connection, a case mentioned by Dr. Peabody in the recent discussion is of interest. A patient, for whom cessation of the baths had been ordered on account of intestinal hemorrhages, watched for the absence of the nurse and plunged into the bath which stood near his bedside. The result was a cessation of the hemorrhage. When I saw him, by courtesy of Dr. Peabody, several days later, he was bright, and was engaged in a plea for rice-pudding.

bath before the fifth day, a point which is emphasized as essential for reaching the phenomenal success attained in the twelve hundred cases reported by Juergensen, Vogl, Brand, and in the second army corps. Need we abandon the treatment altogether because "it is difficult" (as was said in one of the discussions) "to make the diagnosis before the fifth day?" This is simply a valuable rule; the more nearly we approach it the more complete will be success, as Vogl has plainly shown. But I desire to emphasize the fact that it is not at all difficult to place typhoid cases under the cold bath treatment before the diagnosis is clearly made. Every suspicious case of fever should be placed in the bath, if the temperature reaches 103° F. This is the course pursued at Munich and Stralsund. That no harm can result from it may be easily demonstrated. I pursue it constantly in private and hospital practice. The following case will illustrate:

On November 10, 1889, the police sent an ambulance call to the Manhattan General Hospital, for a case of Paris-green poisoning which had been found on the street. The stomach, on being washed out, was found to contain no poison. Patient's temperature was 106° F., pulse 140, tongue brown and dry; he was apathetic, and could give no account of himself. He had no cough; his respiration was not out of proportion to the pulse. Pressure in the right iliac region made him shrink. A graduated bath, 90° F. to 68° F., reduced his temperature to 101° F. in three hours; another bath, when it rose to 103° F., reduced it to 100° F. It never rose to the bath rule figure (103° F.). On the second day consolidation was made out in the upper posterior half of the right lung. The patient was convalescent in five days. He was bathed on suspicion with benefit.

If this rule is adhered to in all suspicious cases, many would come under treatment before the fifth day, and almost surely be saved. If the case be one of simple fever of an ephemeral type, no harm will ensue, especially if the graduated bath be used, until the diagnosis is clear.

A mild bath treatment is advantageous in any febrile attack in which the temperature reaches 103° F.; if it prove to be typhoid, valuable time has been gained; if its course is rapidly terminated, nothing is lost, except the satisfaction (?) of plying the patient with aconite or antipyretics. In private practice this may be done wherever a bath-tub can be obtained; in hospital practice it may be done by ordering the house-staff to put every case of fever not clearly diagnosable, and having a temperature of 103° F., into the graduated (Ziemssen) bath, from 90° F. down to 68° F., or less, for half an hour, with gentle friction during the whole time. The gradual lowering of each bath accustoms the patient and his friends to overcome their prejudices.

Brand's method has been most thoroughly canvassed in Germany. It is far from universally adopted. Before the discovery of our active antipyretics, and when high temperatures were the chief points of attack, the cold bath treatment enjoyed more universal acceptance than it does to-day. That the sway of antipyretics is now passing away, even in this country, is evident from the recent discussions. The lethal influence of high temperatures is happily losing its hold upon the profession. But let us take care that the receding tide do not only sweep away the antipyretic rubbish which has accumulated during the past fifteen years, but also the cold bath treatment, which had unfortunately been classed among antipyretic measures. Whenever we give up this fallacious idea, the cold bath treatment will replace the unsuccessful antipyretic treatment completely. In the Fourth Congress of Internal Medicine (1885), eminent clinicians expressed almost unanimously the opinion that, "until we obtain a specific curative agent for typhoid fever, such therapeusis is to be preferred which is capable of diminishing or removing the effects of the morbific agents, and that this aim is most surely fulfilled by hydrotherapy; that medicinal antipyretics act only against temperature elevation, but do not, like the bath, produce a modifying effect upon the fever process." Fiehlene, Liebermeister, Jacksch, Struempell, Rossbach, Stintzig, Bauer, Heubner, Juergensen, Zuntz, Bamberger, were among these speakers. Since that discussion brought out the true mission of the cold bath, as first enunciated by Brand, a reaction is taking place in its favor. But this reaction is just reaching our shores. I passed through a similar experience in another discussion. When I opened the crusade, in December, 1883, against vaginal injections after normal labor, this antiseptic prophylaxis was being rapidly abandoned in Germany; but some of our foremost obstetrical teachers were warmly espousing it, and I had the satisfaction, by constant agitation, in which statistics with the deadly parallel[1] played an important rôle, to be instrumental in hastening the abolition of this useless and injurious practice.

The present effort to win the American medical profession over to a treatment of typhoid fever whose triumphant results are undoubted, will, I am convinced, be crowned by the same success, because the clinical proofs are equally abundant and unimpeachable. As in agriculture, the frequent turning of the soil renders the latter fertile and aids the growth of seed planted in it, so does a healthy scepticism, which stirs and upheaves the mind, furnish a most fertile soil for the growth of an idea. Thus it has come to pass that the cold bath treatment is winning golden opinions, even from those who were reluctant and halting in its acceptance.

Goldtdammer[2] says: "In 1868 the picture changed completely, although the same hygienic conditions existed; the treatment was changed on the 1st of January, 1868, the cold bath being adopted. With the latter a revolution occurred, which even the nurses noticed, reducing the mortality to five per cent."

Bahrdt says that the mortality of typhoid fever in the Jacobs Hospital at Leipsic, was reduced by the bath treatment from 18.2 per cent. to 9 per cent. Riegel reports a reduction in Bamberger's clinic from 20 per cent. to 4.4 per cent., by baths. Schultz, in Bremen, reduced the mortality to 2.7 per cent. by strict bathing.

Guttstadt, who is the censor of the Statistical Bureau in Berlin, said in a lecture before the Verein für innere Medizin in Berlin, in 1887, that "an important factor in the diminution of mortality is the more successful treatment now used, especially Brand's method."

Besides the well-known clinicians above mentioned, Ziemmssen, Immerman, Bartels, Riegel, Leichtenstern, Nothnagel, Fiedler, Mader, Trier, Muni, Ebstein, Weil, Boehm, Bettelheim, Pfuehl, Senator, and in France, Tripier, Bouveret, Glenard, Teissier, and others, may be cited as advocates of a more or less strict bath treatment of typhoid fever.

There are still many good clinicians opposed to its adoption. But the well-informed observer will agree that it is at least safe to follow the lead of the teachers and clinicians mentioned. In the recent discussions much was said by some of the speakers on the subject of intestinal antisepsis in typhoid fever, and the suggestion was made, with some show of practical value, of sterilizing as far as possible the intestinal tract, either by internal antiseptics, as naphthol, or by high irrigation. Fortunately, the attentive reader of the MEDICAL RECORD of January 18, 1890, which contains this discussion, finds on page 67 a note on the influence of drugs on putrefactive processes in the intestine, as shown by the experiments of Stieff in Gerhardt's clinic. Stieff obtained negative results, camphor being the only drug which appeared to possess a slight restraining power on putrefaction. The attempt to free the intestinal canal in typhoid fever from putrefactive agents would, therefore, seem to be Quixotic. Putrefaction is due to the presence of decomposing tissue elements and secretions from intestinal ulcerations. Prevent the latter, or limit them, and we remove the cause. That this may be done can no longer be doubted, if we may

[1] New York Medical Journal, March 22, 1884.
[2] Arch. f. Klin. Med., 1887. Vogl's paper.

credit Vogl's testimony to the great diminution of diarrhœa and meteorism by the bath treatment. The cold bath, which reduces the temperature, strengthens the heart, deepens the respiration, improves the digestion, increases diuresis and perspiration, brightens and refreshes the patient, and must prevent the tendency to accumulation of effete material in the system.

Another point brought out by one of the speakers in the recent discussions is the value of solid food in the third week of typhoid fever. It is not a simple coincidence that the advocate of this method of feeding is also the only advocate of systematic bathing who appears in this discussion. Tripier and Bouveret dwell upon the remarkable appetite and digestive power of patients who are systematically bathed. Dr. Austin Flint, who introduced systematic bathing into his ward last spring, tells me that the appetite of his patients is difficult to appease. How different the condition of the stomach is under the expectant or antipyretic treatment, every experienced physician knows but too well. As Brand graphically says: "While under the water treatment, the tongue is moist, pale, without fur, the pharynx free from pain, the stomach and intestines free from catarrh, the latter only showing swollen glands; we find under other treatment the tongue hard, brown, and dry, saliva is absent, swallowing is painful, stomach and bowels utterly incapable of digesting, their mucous lining covered with ulcers, the bowels distended; and in this condition the School demands —that the patient be well nourished. What a singular demand!" The digestive organs are in so nearly a normal state (under bath treatment) that I often asked myself the question if it may not be safe to give more solid food, in order to appease the hunger. I find in *Virchow's Archiv*, 89, S. 95 and 303, an essay by Hoesslin, who proves that even in fever and diarrhœa, so long as these do not reach a very high temperature, as is usual in typhoid fever, the nutriment is almost completely taken up; that there is, therefore, no reason to give fever patients less food because it is not digested and absorbed. He regards it necessary to offer typhoid patients the largest possible quantity of concentrated food, as milk, meat, eggs, flour preparations, etc., all, however, in minced and liquefied form.

Tripier and Bouveret give milk, bouillon, extract of beef, coffee and tea with milk, one-quarter of a litre always after the bath; hence eight times daily. During the time of "relative apyrexia" they allow rolls, rice-cream, tapioca, chocolate, soft eggs, four daily, meat-juice, etc. So soon as temperature is normal, they allow roast chicken, bread and milk, lean meat, rice, baked brains, white lean meat, a little boiled beef, ground fine, etc. Vogl gives from the first day, coffee, meat broth with a little flour and egg, milk, one bottle of red wine daily, later bouillon, eggs, so that the patients receive daily 50 grammes albumin, 45 grammes of fat, and 200 grammes carbohydrates, "a food quantum that could not be permitted to patients who are not bathed." Brand says the most important element of nutrition, besides the food, is a good stomach. "Where this is lacking, all foods are useless. As we may obtain it by the systematic bath treatment, the latter is demanded."

The most important question in this review of the recent discussions is: What constitutes the cold bath treatment?

The statistics referred to, showing a reduction of mortality to less than three per cent., and in 1,200 cases treated before the fifth day to less than one per cent., were not obtained from cold sponging, wet packs, cold coils, cold affusions, graduated baths, or any other agreeable substitute. They were the result of methodical bathing according to Brand's original method. As there seems to be much vagueness of conception on this point, I deem it important to furnish an outline of the method, as I have learned it from the study of Brand, Vogl, Tripier, and Bouveret, and correspondence with Brand himself.

1. The first principle is to bathe early; even before diagnosis is clear. No harm is done at least by a graduated bath, viz., reduced from 90 to 68° F. for a quarter or half an hour. This is the only modification of the method which is advisable. It accustoms the patient to the treatment and gains time. It should be resorted to as soon as the temperature in the rectum reaches 103° F. I am in the habit of bathing the patient's face and chest with ice-water before placing him into any bath.

2. As soon as the case becomes defined or even suspicious, the strict bath, 65° F., should be used. The tub must stand at the patient's bedside, filled two-thirds with water at 65°. The patient receives a stimulant, and has his face and chest washed with ice-water. He is undressed and gently lifted into the water. A gasp or shudder follows, perhaps an ejaculation of distress. But gentle reassurance by word and deed, a calm demeanor devoid of haste, and avoidance of force, will do much to quiet the patient. With one hand under his head, if necessary, the other is used to gently practise friction over the submerged parts. Another nurse pursues the same course, if possible. This important feature of the Brand method is, I have observed, frequently neglected, and to its neglect may be charged the occurrence of collapse, cyanosis, and chill. Gentle friction with the outstretched hand produces a rosy hue of the skin; the superficial vessels are dilated. By thus exposing a large supply of blood, the cooling is more rapid. The bath should be continued in this manner for fifteen minutes, no matter how urgently the patient desires to be removed. A pinched countenance, chattering of teeth, unless excessive, or a small pulse, must not be taken as indications for removal. If the face becomes cyanotic or the respiration embarrassed, the bath must cease. Every five minutes during the bath, water at about 60° F. should be gently poured from a pitcher over the head of the patient, after a folded handkerchief has been tied like a bandage with the knot over the nucha. This prevents the water from running over the face, and spreads it over the head.

Before the patient is removed from the bath, a linen sheet should be spread over a blanket to receive him. If his temperature has been high, this sheet alone is wrapped around him, while his lower extremities are also covered with the blanket. If his temperature has not been over 103.5°, the whole body may be wrapped in the blanket over the sheet and hot bottles placed to the feet. He is then left to dry for ten or fifteen minutes; something hot is now given him; his night-gown is replaced and his temperature is taken. A piece of old linen sheeting (cotton should never be used for any purpose in this treatment) is now folded into a compress of four folds, gently wrung out of water at 60° F., and placed upon the entire anterior portion of the body, from the neck to the pubis. It is renewed every half-hour if patient is not sleeping. This process is repeated every three hours, so long as the temperature reaches 103°, night and day, unless the patient is asleep naturally. Stupor, coma, or delirium are always indications for the bath, even if the temperature be below 103°. In these cases, placing the patient semi-recumbent into a half-bath at 95° and pouring several basinfuls of water at 60° over his head and shoulders, is a more valuable procedure than the cold bath. Let it be distinctly understood that the Brand bath is not "a nervous sedative" (as has been claimed for the cold bath in a recent paper before our State Society); but a refreshing measure, a stimulant, if you will, by which the depressing effects of the typhoid poison are to be counteracted. The nervous system is tottering under the toxic influence arising from the infective process; all the functions are so enfeebled thereby, that the processes of life are barely maintained. The impact of cold water upon the large peripheral surfaces deepens the inspiration; more oxygen is inhaled, more CO_2 given off; the cooled blood rushes to the nervous centres, vivifies and refreshes them; the heart and stomach respond, the secretions become more active. All this is evident to the most superficial observer. Hence the cold bath fulfils com-

pletely the indication referred to in the recent valuable paper of Dr. Loomis before the State Society. He said, "In the light of recent experiments we are forced to the position that, in the treatment of all acute infectious diseases our successes would be in the judicious measures which Dr. Chambers has long ago designated as restorative." The rationale of the restorative action of the bath is so simple, that if once appreciated, no attempt will be essayed to substitute it. The gentle friction stimulates the coats of the superficial vessels, whose muscular coats, as Marey and others have shown, are paralyzed by the infective process (giving rise later to heart failure from absence of propulsive aid). These vessels are thus dilated, as is evident from the ruddy hue of the skin; the obstacle to heat dissipation is removed also (Weyrich has demonstrated that gentle friction increases heat dissipation sixty per cent); the occasional cold douche over the head and shoulders again contracts the vessels briefly. Thus their activity is maintained. How different the effect must be of laying the patient into the cold water and leaving him in it undisturbed for fifteen minutes, or wrapping him in a sheet and sprinkling ice-water over him, very little reflection will indicate. Winternitz has demonstrated by sphygmographic tracing this restoration of tone to the vessels by the bath and friction; and the most superficial observer will note the increase in the force and decrease of the frequency of the pulse after it. It is therefore a true "restorative."

Let me give you the testimony of one of the clearest-headed teachers of therapeutics in Germany, F. A. Hoffman, of Leipzig, whose recent work "Vorlesungen über Allgemeine Therapie," 1888, has received the highest encomiums from Ewald and other reviewers. "A most decided advantage of the cold bath (p. 438), upon which I lay the greatest weight, is its effect upon the nervous system. I have already referred to its excellent action in every respect. It remains for me only to remind you how favorable the tonic influence must be just in such cases in which an elevated temperature has produced paralysis, and from this point a retro-action must result favorably to all organs of the body, as is sufficiently well known to us practical men. Thus we see the patient torn from his somnolence, we see him eat and drink, we see the innervation of the heart, of the bronchi, of all the vessels maintained in force, so that bedsores, hypostases, and thrombosis become rare. Respiration is deepened and slowed, heart action calmed, the pulse is usually reduced ten to fifteen beats. Blood pressure is raised; hence the heart is strengthened. Heart feebleness also forms for us an indication for the cold baths, but two groups must be distinguished, viz., that in which the skin is very hot, from that in which it is cool. The weaker the heart, the more does the energy of the peripheral circulation sink; a further cooling can only act reflexly; hence, only very short and cold affusions are indicated, or wine and camphor. But where there is great surface heat with a miserable pulse, prolonged cool, not too cold, baths are indicated. In these cases the usual stimulants have not served me so well. The improvement of the circulation of the glandular apparatus by the cold baths must be noticed. I cannot doubt the favorable effect of cold water upon the general nutrition; many experiences on healthy and fever patients give me this assurance. Cold water is a nerve-stimulant, which possesses the least shadowy sides of stimulants. With a little care unfavorable reaction may be avoided, and we have only the invigorating effect already referred to, which must redound to special advantage in fevers. Anæmia of the inner organs is removed when the blood is driven from the skin by the cold baths; and thus the function of the heart, brain, and large glands is at least temporarily aided."

The cold bath is not intended as a specific curative measure; its action is analogous to that of peripheral stimuli applied to other toxic conditions.

The stupor due to opium toxæmia furnishes a fair analogy. Here we have a poison circulating in the blood, which requires time for its removal. In mild cases the system may eliminate it without assistance, but generally very active stimulation by the faradic current, cold douches, incitement to walk, etc., are required to prevent the patient being overpowered by the stupor. The latter is the chief manifestation, the pulse and respiration furnishing others. Now, if we resort to treatment so soon as we find the respiration slowing up, we may prevent the stupor; if we wait longer it will become difficult, if it do not become impossible. The treatment is continued until the respiration and pulse indicate that the poison is no longer circulating in the blood. Almost the same object is in view in the treatment of typhoid fever by the cold bath. The elevated temperature (103° F.) is regarded as the guiding manifestation in this case, as the retarded respiration is in the other. We no more try to cure the former by the bath than the latter by faradization. If we can diminish the force of the toxic effect arising from the infective process in typhoid fever, before it accumulates and overwhelms the system, we accomplish the same result that we reach in opium poisoning by early faradization and other measures, viz., we endow the system with nerve-stimulus or force to tide over the danger of toxæmia, until the offending elements are eliminated. Our antitoxic measures will prove efficient in proportion to the earliness, persistency, and good judgment with which we apply them, in the one case just as they will in the other. For the object is almost analogous in both cases, although the conditions are not. What would be thought of the application of a mustard-plaster or the smelling of hartshorn for the production of a peripheral stimulus to arouse a case of opium narcosis, which barely responds to flagellation or a strong faradic current? Sponging the body in typhoid fever bears the same relation to the cold bath; the only difference being that in the one case the feebleness of the stimulus is at once apparent, while in the other days and weeks may pass ere we discover its inadequacy, and then it is too late, as experience has shown. Dr. Peabody has told us how persistently he has tried sponging in several hospitals, and how ineffective it has proven. The bath at 65°, when accompanied by frictions, will prove not only a valuable antitoxic agent, but a true restorative to the failing powers.

Regarded in this light, and not in the light of a heat-reducing measure, this mode of bathing (not sponging, wet-packing, or ice-coil) must save many lives that are now daily sacrificed.

47 East Sixtieth Street.

ACUTE ASCENDING PARALYSIS, FOLLOWED BY ATAXIC PARAPLEGIA.[1]

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Acute ascending paralysis was first recognized and described by Landry in 1859. Since that time numerous supposed cases have been reported, though the points of similarity between some of the symptoms of the disease and acute ascending myelitis renders it somewhat doubtful under which heading some of the cases most properly belong.

The etiology is obscure, but remote influences correspond pretty nearly to those found in acute myelitis. The disease is more frequent in males than females, and chiefly occurs between the ages of twenty and forty. As an exciting cause, exposure to cold ranks first. Convalescence from small-pox, typhoid fever, and diphtheria have also been mentioned in this relation. Some authors regard syphilis as a frequent cause, but this opinion has not been generally received. No constant premonitory symptoms have been observed. General malaise, slight fever, pains in the head and back, formication, numbness in the feet and finger-tips have all occasionally preceded the onset. The first definite symptom is usually weak-

[1] Read before the Chicago Medical Society, March 3, 1890.

ness, beginning in the feet, and extending steadily up the legs. It may begin somewhat earlier in one foot than in the other.

The paralysis appears first in the muscles that move the feet, then those which move the leg, and, later, in those which move the thigh. It then extends to the muscles of the pelvis, loins, abdomen, and thorax, in the order named. The arms are next invaded, either from below upward or from above downward. The diaphragm and the neck muscles next suffer, difficulty of swallowing comes on, and articulation becomes imperfect, or impossible. Unless the disease is arrested the patient soon dies from asphyxia, due to paralysis of the muscles of respiration. The sphincters may escape entirely, or suffer considerably. The sensory symptoms vary from slight subjective numbness and tingling, to a considerable degree of anæsthesia. Sensibility to touch is frequently blunted, and that to pain and temperature changes may be delayed. Pain is nearly always absent, and never prominent. At first the cutaneous reflexes and myotalic irritability are lost; but in most cases which do not terminate fatally it returns and may become excessive.

Although the muscles soon become flaccid they do not atrophy, nor present altered electrical reactions; nor is there any tendency to bed-sores—striking points of difference when the disease is contrasted with acute poliomyelitis. The cerebral functions are not involved. As a rule, there is no elevation of temperature. Enlargement of the spleen has been observed in several cases. Though from two to four days is the period usually occupied by the disease from its commencement till it ceases to progress, either from the supervention of death or otherwise, it may progress to a fatal termination in a few hours, or occupy so long a time as four weeks.

Though the order of invasion already described is most usual, considerable variation from it has been noticed. The arms have sometimes been involved before the legs, and bulbar symptoms have been said, in some cases, to take the precedence. Very rarely there has been diplopia, paralysis of accommodation, dilatation of one pupil, and in one case there was double facial palsy. After having advanced rapidly to a certain point the disease may stop, the muscles last affected being the first to recover. Though the whole nervous system, including the sympathetic and the muscles, have been examined by the most competent pathologists, only negative results have been obtained.

The traces of inflammatory changes in the gray matter, which a few writers claim to have found, have led them to pronounce the disease a form of acute atrophic paralysis. But the absence of fever, muscular wasting, and changes in electro-excitability are strongly opposed to this view. The occasional enlargement of the spleen has led to the hypothesis of a toxic influence, mainly acting upon that lower portion of the upper segment where its ramifications unite with the various cellular elements in the gray matter of the cord.

Now, so able an observer as Dr. Gowers makes disease of these filaments a working hypothesis by which the symptoms in this disorder and in ataxic paraplegia may be explained, and this case, so far as I am aware the only one of the kind on record, would seem most peculiarly to confirm Dr. Gowers's hypothesis.

In reaching a diagnosis the rapidly ascending palsy, with relaxation of muscles and loss of reflex action, without fever, pain, and loss of sensation, and if the patient survives without wasting of muscles or changes in electrical excitability, are the main points to be borne in mind.

General ascending myelitis is the only disease which may present considerable similarity in the mode of onset and early symptoms. But in this latter affection there is always much disturbance of sensation, there is a strong tendency to bed-sores and other evidence of trophic disorder; the muscles waste and will not respond to the faradic current, if the patient survives. A large majority of cases are fatal, and the prognosis is always grave until the march of the symptoms is arrested. Relapses are infrequent. As during the early stages the disease cannot be distinguished with certainty from acute myelitis, the treatment should be that most suitable for this latter disorder. Rest, lateral decubitus, and counter-irritation the whole length of the spine, are appropriate measures. Ergotin and salicylate of soda have each been employed with some apparent benefit.

History.—Following is a history of the case which furnished the text for this paper:

R——, aged forty-two, married, native of Ohio, was brought up on a farm, and has been by turns farmer, carpenter and builder, and merchant. Temperate, active habits, and disposed to work long hours. Family history good. Mother still living, aged seventy, and he thinks has cancer of the breast. At the age of sixteen had a severe attack of pneumonia, and ten years ago a severe attack of typhoid fever; in the meantime having had, while camping in the West, several severe attacks of malaria during which he was delirious when the fever was at its height. In the fall of 1883, forty days after exposure, had a small hard sore on the penis, which his physician pronounced syphilitic. No secondary symptoms were ever observed. About six months prior to June, 1887, began to suffer with occipital headache, which never left him; and often manifested violent exacerbations, which increased in frequency and severity until toward the latter part of the period, when diplopia sometimes occurred at the climax of an exacerbation. The character of the pain, he says, was steady, dull, and heavy. He ate and slept fairly, and was able to attend to business as usual. Tried many physicians and took various and numerous remedies, but without any relief.

On the morning of June 9, 1887, travelled by train about twenty-five miles to consult a physician in regard to his headache, and while sitting in the physician's office about sundown of that day, noticed a slight but distinct numbness of the toes of the left foot, as if the parts were "asleep." About two hours later, when he retired, the numbness had reached the ankle, but he noticed no weakness when walking. He awoke about 1 A.M., and thinking it might be time for an early train, which he wished to take in order to return home, he observed on going downstairs that the numbness had extended above the knee, and that the muscles of the leg were quite weak, so that he walked with difficulty. And at the same time he noticed that numbness had extended to the ankle on the other side.

When he rose the next morning at five, the numbness had extended to the hip on the left side and nearly to the knee on the right, and the weakness had increased considerably in both legs, so that it was only with great difficulty that he could walk to the railway station, a distance of about half a mile. When there he took a sandwich and cup of coffee for breakfast, but soon vomited, though he is certain that he had no fever at any time during the attack. He reached home at about 10 A.M. and found, upon trying to walk a few yards to his house, that the weakness had increased very considerably, so that he needed assistance.

Continued to grow weak throughout the day; the numbness and weakness of the right leg having overtaken that of the left, progressed evenly above the hips, but more slowly than it had advanced up the legs. He slept some during the night, and next morning, by holding on to the fence along the walk for support, reached his place of business, but returned almost immediately, the paralysis having progressed very markedly in degree. About 10 A.M., the numbness having reached the umbilicus, severe nauseous vomiting and hiccoughing set in and lasted pretty steadily for forty-eight hours. When the numbness had reached the umbilicus, it appeared in the finger-tips of each hand and extended nearly the whole length of the distal phalanges of the second and third fingers, and only at the extreme ends of the other fingers and thumbs. Here it ceased, and no weakness of the hands or upper extremities ensued, but the altered subjective sensation and blunting of tactile sensibility still remains as it does elsewhere.

The paralysis of the legs and lower trunk muscles appears to have been almost complete by the end of the first forty-eight to sixty hours; and it seems safe to say that extension ceased at the end of forty-eight hours from the commencement of the attack.

The patient is a man of active intelligence, and, after the disease had fully developed, often tried to discover any possible power of motion in the lower extremities, and was only able to make very slight pressure against the bedclothes with the outer side of each foot.

The sphincters were distinctly affected, but not greatly. Haste had to be made when he felt the desire to urinate or defecate—if the passage was loose—in order to prevent an accident. Constipation resulted probably from lack of exercise and paralysis of abdominal muscles.

The mind was clear, so that the patient kept the run of his business as perfectly as ever, but he felt a dislike for his wife and children which he had never felt before. He did not want them about him, and wanted the constant presence of his mother. This may have been nothing more than an excessive degree of the peevishness often observed in invalids; the feeling subsided as improvement began. Sexual power was lost, though desire was not much altered. First began to regain some power of movement in bed in about six weeks from the onset, and by the end of two months could stand by supporting himself by holding on to the backs of two chairs.

I am unable to get any information regarding the state of the reflexes while the patient was in bed, but the cutaneous reflex and ankle clonus were well marked when he began to walk, as well as spastic symptoms. While sitting in a chair, with the ball of the foot on the ground and the heel unsupported, marked clonus would be produced. If he would step with his bare foot on a small piece of coal, he would be thrown down by the violence of the contraction thus produced, and his legs would become rigid when he suddenly straightened them out in bed.

Inco-ordination was first noticed a few months after he began to walk, though he thinks it may have existed earlier. Inability to walk in the dark first attracted the patient's attention. Patient thinks that, on the whole, there has been a sort of interrupted improvement extending from a period about six weeks after the onset down to the present time, though slower within the last year than before.

The subjective influence of custom and the increased facility gained by practising locomotion under difficulties must all be taken into account in considering the patient's estimate. He has, however, been, for nearly six months past, under the observation of my assistant, Dr. Slater, at the Post-graduate Medical School, who has watched and studied the case with great care, and he reports distinct improvement within that period.

Present Condition.—Patient is well nourished, and, with the exception of a somewhat capricious appetite, his general health is good. Probably owing to some weakness of the abdominal muscles and some blunting of sensibility of the rectum, he has to stimulate this latter organ by the insertion of his finger in order to effect a movement of the bowels. The sphincters are still somewhat weak, as he says it would be difficult, or even impossible, for him to retain a loose passage after taking physic, and he has to make haste when he feels the desire to urinate. The gait is typical of ataxic paraplegia; the feet are kept far apart; the legs are rather dragged after the body, and the toes scrape the ground. There is considerable jerkiness in any movement of the leg, and he cannot stand with the eyes closed.

Myotatic irritability, as evidenced by the knee-jerk and ankle clonus, is considerably exaggerated, and so is the cutaneous reflex from the soles, though it is not developed by a slight touch. A slight prick of a pin produces a sharp contraction. Cremasteric, gluteal, and abdominal reflexes could not be obtained. There is no muscular atrophy in any situation, no tendency to trophic changes, and electrical excitability to both currents is normal in quality, though possibly reduced somewhat in quantity.

The patient thinks the subjective feeling of numbness—exactly as if the parts were asleep—is the same as at the time of the onset. The sensibility to touch and temperature changes is distinctly blunted. When a test-tube, filled with hot water, was firmly applied to any part, he promptly responded correctly, but when a tube of exactly the same size and shape, filled with cold water, was applied, there were many parts below the knee, upon both legs, where he could not be certain if it was hot or cold; and in an oval space about three inches in the longest vertical diameter, on the inside of the left calf, he frequently pronounced a cold body hot. The prick of a pin produces pain promptly, and, he thinks, natural in quality.

Tactile sensibility and sensibility to temperature changes improve gradually from the knees to the uppermost limit in the vicinity of the umbilicus, which comprises a zone of doubtful territory about two inches wide. That is, when the finger is passed slowly either upward or downward, and the patient is requested with closed eyes to indicate when the limit is reached, he will say, "right about there" when the finger is arrested anywhere in a zone as above described.

Though, while the patient has been under my observation, the left pupil has generally been a trifle larger than the right, I have been unable to discover any conspicuous defect in vision, movement, the fundus, or ocular reflexes that would tend to throw any light on the case.[1]

I should have stated that throughout the period of headache preceding the onset of paralysis, the patient had ulceration of the scrotum, which itched intolerably, and which he habitually scratched. When the paralysis supervened his attention was no longer directed to the scrotal itching and the ulcer healed, leaving a cicatrix which I would not be able to pronounce positively specific.

An acute process commencing at the lower extremity of the lumbar enlargement and rapidly progressing to its upper extremity—or to the eleventh dorsal pair slightly above the upper extremity—and there ceasing, and then commencing between the seventh and eighth cervical pair at the bottommost part of the functionally important region of the cervical enlargement, and manifesting the same progressive tendency that was shown in the lower segment, would seem to lend particularly strong support to the etiological hypothesis put forward by Gowers, that this disease may be due to a toxic or other influence acting upon the fine filamentous terminations of the upper segment in the gray matter of the cord.

That the process stopped near the level of the eleventh pair to continue near the eighth—if possibly it did not begin in the latter before it had entirely ceased to progress in the former situation—would indicate a special susceptibility of the parts in proportion to their distance from their centre—the brain—their functional complexity and importance, and the distance from them and from their centre of the parts to which the special modes of energy they severally convey is ultimately conducted.

That is, it would be easy to understand how a comparatively coarse mechanism might suffice to distribute the necessary energy to the abdominal muscles, while an exceedingly fine and complex mechanism might be required to supply the hand, finer indeed than that for the foot; but the increased distance of these latter filaments from their centre might give them the priority in point of vulnerability.

I shall refrain from attempting to account for the nausea, vomiting, and hiccoughing, as well as the antecedent headache.

The mode of onset of the ataxic paraplegia in this case, together with the fact that its course has been regressive rather than progressive, would, according to the literature of the subject, remove it from the category of ataxic paraplegia proper, though the symptoms are clearly typical of that disease.

[1] My colleague, Dr. W. Franklin Coleman, examined the eyes very carefully, and found some varying insufficiency of the internal recti.

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THE WEIGHT OF INFANTS AND THE AMOUNT OF FOOD.

IN an article recently published in the *New York Medical Journal* attention is called, by Dr. A. Siebert, to the necessity of more exactly graduating the amount of food which bottle-fed infants should take. Dr. Siebert insists that, while there has been a great deal of study of the subject of the quality of milk, its amount has been left in general to the judgment of the mother or nurse. Quite recently, to be sure, Escherich gave tables of the amount of food, arranged according to the age of the child. Dr. Siebert, however, thinks that it is not the age but the weight of the child which should determine the amount of food, and he cites Rotch as saying: "Of the different causes which regulate the gastric capacity, the *weight* of the infant has the greatest influence, and it is perfectly possible for a poorly developed infant of small weight to have a gastric capacity no greater than a normally developed infant of half the age."

Boedert, also, in support of this view says, in Vogel's text-book: "In case the digestion is very easily disturbed, a more exact regulation of diet would be necessary, so as to give two hundred cubic centimetres of properly diluted milk to every kilo of the child's weight."

Having convinced himself upon, as it seems to us, rather slender data, that the weight of the child is the main factor in determining the food amount, a table has been prepared accordingly.

The chief items in this table are shown here.

Child's weight in pounds.	Size of bottle.	Amount.		
		Of milk.	Of gruel	Of sugar.
6, 7, and 8.	13 ounces.	1 ounce, or 2 tablespoonfuls.	2 ounces, or 4 tablespoonfuls.	½ teaspoonful.
9 and 10.	4 ounces.	1½ ounce, or 3 tablespoonfuls.	2½ ounces, or 5 tablespoonfuls.	½ teaspoonful.
11, 12, 13, and 14.	5 ounces.	2½ ounces, or 5 tablespoonfuls.	2½ ounces, or 5 tablespoonfuls.	¾ teaspoonful.
15 and 16.	6 ounces.	3¼ ounces, or 7 tablespoonfuls.	2⅝ ounces, or 5 tablespoonfuls.	¾ teaspoonful.
17 and 18.	7 ounces.	5 ounces, or 10 tablespoonfuls.	2 ounces, or 4 tablespoonfuls.	1 teaspoonful.
19 and 20.	8 ounces.	All milk.	.....	1 teaspoonful.

As the table indicates, a series of six bottles of different sizes has been prepared, on each is stamped a line indicating the amount of milk to be put in it and the weight of the child for which each one is to be used. The bottles are fitted with rubber corks ingeniously fixed with vents at the side, so that the milk can be sterilized and then the bottle sealed without removing the cork. A tray to hold the bottles is so arranged that it can be placed in a sterilizer or in an ordinary kettle.

Dr. Siebert's device will do a service, no doubt, in directing attention to the subject of the exact dosage of food for infants. It is unlikely, however, that the profession will accept without more evidence the dictum that the weight of the child is the sole or dominant factor in determining the amount of food, though no doubt it is an important one.

A CASE OF PSYCHIC PARESIS, WITH AUTOPSY.

AMONG the most interesting and yet most puzzling cases of nervous disease with which the physician has to deal are those in which disorders of volition form the most prominent symptoms. Disturbances of this nature are many of them functional, depending on no local anatomical change; the trouble originates from some abnormal condition of the circulating fluids, or is due to some reflex irritation. The broad-minded physician is, however, very cautious in referring cases to this category, since post-mortem examination frequently reveals extensive disease of the brain where none was suspected during life. Instead of putting the case aside with a label of "Kidney Disease," "Softening of the Brain," "Syphilis," "Hysteria," or "Change of Life," and thinking no more of it, he prefers to note carefully the exact symptoms exhibited, and to seek, by the aid of modern writings on brain localization, to reason out as accurately as possible the probable seat of the trouble, in the hope that, if the issue is fatal, a post-mortem may verify his diagnosis.

A case of this nature, which will interest the reader because of its resemblance to obscure cases in his own practice, is related by Dr. Inglis in the "Proceedings of the Detroit Medical and Library Association," 1889.

The patient, an adult male, whose history as regards length of illness, habits of life, or possible injury were wholly unknown, was brought to the sanitarium in a state of mental torpor with apparent paresis of the right side. No abnormality could be found in temperature, pulse, sight, hearing, condition and reaction of the pupils, in the appearance of the surface of the body, nor in the state and functions of its various organs. The urine showed no signs of either nephritis or diabetes. There were no indications of syphilis. He lay continuously upon the back, giving no evidence of intelligence, occasionally drawing up the left leg or putting the left hand to the face or head, but never moving the arm or leg of the right side.

His response to questions or commands was, however, of a very peculiar nature. He evidently understood them, but could bring his mind to bear on a subject only for a moment. He would put out his tongue as requested, but would fail to withdraw it. He would, when asked to shake hands, grasp with his left hand and forget to let go. His replies to questions were quite appropriate, but monosyllabic. The paresis of the right side was not a true paresis, for he could, when specially ordered, perform any desired movement with the right arm or leg as well and as strongly as with the left.

It was decided that the lesion, whatever it might be, did not involve either the motor area of the cortex or the motor conducting paths; that, since it interfered with

volition, producing a psychic paresis, it must affect the frontal convolutions of the left cerebrum; that it must involve the right side also, since in many cases hemiplegia, even when it produces complete loss of motor and sensory power, and throws the frontal lobes out of function, does not disturb the mental faculties, save as concerns speech. In the absence of a history of the patient and of his disease, no opinion could be formed of the nature of the lesion.

The patient remained in the same condition for some time (how long is not stated) and then failed rapidly, with increasing stupor, stertorous respiration, and filling up of the lungs. An exploratory incision was made at a spot where the skull presented a depression, and the bone was trephined, but nothing abnormal was detected except venous congestion of the underlying brain. The patient died shortly afterward. At the autopsy an infiltrating tumor—yellowish, gelatinous, but tolerably firm—was found in the white substance of the left anterior lobe, measuring about an inch in each diameter, and located three-fourths of an inch below the upper surface. The lateral and posterior part contained an irregular cyst of yellow, non-purulent serum. The tumor lay chiefly under the middle frontal convolution. It was distinctly separated from the cerebral ventricle, which, with its contents, was normal. The cerebral tissues, except those next to the tumor, were healthy.

A smaller, firmer tumor, without cystic development, was found in a corresponding position on the right side.

On the surface of the corpus callosum, when the hemispheres were drawn apart, was seen a discolored spot half an inch in diameter, and in its substance there was a small infiltrating deposit of the same neoplasm as that which had been found in the hemispheres.

A BID FOR IGNORANT DOCTORS.

A BILL now before the Albany Solons, and presented by a member from this city, is entitled, "An act to repeal the Statute requiring the Preliminary Education of Medical Students." It has already been advanced to the order of third reading. From all appearances it is a trap, set in a quiet way, as is the case with so many similar legislative measures.

For many long and weary years the battle waged over just this point, and finally the friends of higher medical education won, as they thought, a decisive victory. But it seems that perhaps it was not the Appomattox of medical ignorance after all. There is evidently on the other side an Old Guard that may die but will never surrender. It becomes us, therefore, to remember the price of liberty and exercise the necessary vigilance.

In another sense there need be no surprise felt at the proposed action. The number of men desiring to enter the medical profession in this State is large. The prevalent overcrowding does not deter them in the least. A certain percentage of them are unfortunately not overscrupulous about the methods they take to obtain their degree, nor the standard of the institutions at which they study. Unfortunately, again, there will always be a certain number of older men who, under the guise of a medical college, legally created, will receive them without any inquiry as to their fitness, satisfy them with a poor quality of instruction, and finally turn them loose upon the community. This being the case, it is not surprising that these denounce the existing law requiring the possession of an academic degree or a Regent's certificate as a preliminary to medical graduation. They find their occupation gone. The rôle of *Othello* does not suit them.

It is a great pity that such a question as this should have to bear the buffetings of political parties. If the chief magistrate were a man whose career was such as to rank him among the avowed friends of higher education we might feel no fear that any repeal measure would be allowed to become a law. We cannot believe that the majority of the legislators would pass any such measure as the one proposed. The continuance of the present well-regulated statute is a matter affecting every person in the whole State. It has no political bearing. It is a measure for the common good. We are particularly surprised that the sponsor of the proposed repeal should be a man whose previous connection with metropolitan journalism has been so creditable. He, of all men, should know the necessity not only of keeping the standard of medical education at its present height, but of raising it still higher.

There is reason for great watchfulness on the part of the State, and various county societies. *Nulla vestigia retrorsum.*

CEREBRAL SURGERY.

CEREBRAL surgery will soon fall into disrepute unless better results are reported than we have observed of late. Two sessions of the Academy of Medicine of St. Louis, an organization that is new to us, were consumed in discussing the case of a young man who suffered from hemiplegia, aphasia, Jacksonian epilepsy. The reporter of the case observed that: "The latest investigations seem to locate the centre of amnestic aphasia in the first convolution of the temporal lobe, while the centre of motor aphasia seems to be located more on the other side of the fissura Sylvii, in the lowest convolution of the frontal lobe of the left side. So the affection of the speech, so far as localization goes, depends on the first convolution of the temporal and the third convolution of the frontal lobe."

The patient had otorrhœa, however, and so it was decided that he probably had an abscess in the temporal lobe. He was trephined, and promptly died. The autopsy showed the presence of three tumors in the central convolutions. Dr. Bernays, the surgeon, thinks that his operation should be called exploratory craniotomy, and is satisfied that he will do it very frequently. After perusing with much care and interest the reports of the proceedings of the St. Louis Academy of Medicine regarding this case, we must confess that the most creditable thing about them is their candor.

A second case of cerebral tumor is reported by Dr. J. F. Morse, before the San Francisco County Medical Society. Here the tumor was correctly diagnosticated and located. The patient died, however, within twenty-four hours after operation.

Dr. J. O. Hirschfelder reported a third case of cerebral tumor in which the attempt to remove it was followed by death.

We refer to these cases, not with any intention of re-

flecting upon the surgical skill of our colleagues in Missouri and California, but to show that better results must soon be gotten or cranial surgery will fall into great disrepute. Among four other cases of brain tumor reported in 1889, only one was successful. Cerebral surgery for the relief of tumors, abscesses, etc., is apparently the most difficult of all forms, and success only comes with experience and the most thorough knowledge of its technique.

News of the Week.

The Society of the Alumni of Bellevue Hospital, one of the most energetic and progressive of our younger medical organizations, proposes to hold a reunion on April 8th and 9th. The Society consists of physicians who have served as internes at Bellevue Hospital, and has nothing to do with the college, as some might suppose from the name. The programme of the reunion is as follows: On the evening of April 8th a paper will be read by Dr. Charles Phelps, followed by a discussion, in which a number of the prominent surgeons of New York will participate. On Wednesday morning a surgical clinic will be given by Dr. L. A. Sayre, at the Bellevue Hospital; and on Wednesday afternoon a scientific meeting will be held at the Mott Memorial Hall, No. 60 Madison Avenue, at which a number of interesting papers and discussions will be presented, including a paper by Dr. Reuben A. Vance, of Cleveland, on "The Ultimate Results of Injuries to the Hip," and a discussion on "Transient Glycosuria," and "Delicate Tests for Sugar," introduced by Dr. Brandeth Symonds. On Wednesday evening a banquet will be given at the Hotel Brunswick. On Thursday morning Dr. W. T. Lusk will hold a gynecological clinic at Bellevue Hospital.

The Forms of Anæmia.—Oppenheimer and Gräber formulate the following pathological and nosological rules: "Number of corpuscles and hæmoglobin both diminished — acute and chronic anæmia. Number of corpuscles diminished, hæmoglobin relatively increased —primary chlorosis or pernicious anæmia. Number normal, hæmoglobin diminished—chlorosis." In severe cases of chlorosis, with tendency to faintness, headache, heart symptoms, and œdema without albuminuria, the hæmoglobin vary, according to Oppenheimer, from 30 to 50 per cent. He also says that in simple ulcer of the stomach the blood is normal, except where there has just been hæmatemesis, but in carcinoma of the stomach both the number of the corpuscles and the hæmoglobin are subnormal. Pale girls sometimes take iron for a long time without any visible improvement. Dr. Oppenheimer finds that such patients are not anæmic, but chlorotic from some uterine or other affection, so that when the blood is found to be normal it is advisable to make a vaginal examination!

The University of Louisville held its fifty-third annual commencement, February 28th, and conferred degrees on one hundred and forty-five students, it being the largest class ever graduated. We hope it was also the best. One hundred and forty-five doctors in one year is a considerable responsibility for a single institution.

The Soft Chancre, says M. P. Coulon, is disappearing from Paris and going to the provinces. During last summer's exposition, however, the crowds of provincials brought in an unusual number of chancroids.

About Seventy Discontented Members of the British Medical Association have resigned. The list includes the names of Thomas Bryant, Ch. Heath, Berkley Hill, Eustace Smith, Edmund Owen, Matthews Duncan, and Frederick Treves.

The Medical College of Ohio held its commencement on March 6, 1890, and graduated ninety-one men. We are glad to notice that the Faculty announce that hereafter the course will be extended to four years.

Starling Medical College held its forty-third commencement on March 6th, graduating thirty-nine men. The largest class in thirty-eight years has been in attendance.

A Bequest to the Johns Hopkins.—Mrs. Caroline Donovan, who died recently in Baltimore, left a legacy of $100,000 to the Johns Hopkins University.

Small-pox in Meriden.—There is said to be an epidemic of small-pox in Meriden, Conn., and the physicians are reaping a harvest from the vaccinations which they are called upon to perform. Several reported over three hundred vaccinations each in a single day. The number of reported cases of small-pox since the epidemic began is between thirty and forty.

A Name Wanted.—If the correspondent who recently sent the report of a case to the MEDICAL RECORD, but forgot to send his name, will supply the deficiency, we shall be glad to publish his case.

Mississippi State Medical Association.—The next annual session of the Mississippi State Medical Association will be held in Jackson on April 16th.

Florida State Medical Association.—At a meeting of the Executive Committee of the Florida Medical Association, held in Jacksonville, February 20th, it was decided to change the place of the annual meeting from Key West to Ocala. This was deemed best after consultation with the President of the State Board of Health, lest quarantine regulations might interfere with the meeting at Key West. The meeting will be held in Ocala on April 8th, the session being opened in the Opera House at 3 P. M.

Dr. Charles J. Nordquist, of Tuckahoe, N. Y., was killed a few days ago by a train on the Harlem Railroad. He was driving from Mount Vernon to his home, and while crossing the track his phaeton was struck by the engine, and he was thrown out and killed. Dr. Nordquist was a native of Sweden, his father having been physician to Bernadotte, King of Sweden. He came to America in 1843 and settled in Tuckahoe, where he has lived ever since. During the war he served as Medical Inspector of the First Army Corps, and was present in many of the most important battles. He leaves a wife and two married daughters.

Death from a Mad Horse Bite.—Dr. J. T. Aspy, of Columbus, Ind., died recently from what was reported to be hydrophobia. He was bitten by a mad horse a few days before his death, the horse having been bitten previously by a rabid dog.

The North Philadelphia Hospital.—A charter has been obtained from the Pennsylvania Legislature for a new hospital in Philadelphia, which will be known as the North Philadelphia Hospital. The incorporators have secured a large three-story stone building, 3328 North Broad Street, containing fifteen rooms, which is being put into proper condition for hospital purposes. Six beds will be prepared for use immediately on the opening of the institution, which will probably be during the present month. It is said that there are numerous manufacturing establishments in the neighborhood, in which many accidents occur, but that there are no hospitals within convenient distance, and that consequently this hospital will supply a real want.

A Brooklyn Society for the Relief of Cripples.—A meeting was held recently in Brooklyn for the purpose of discussing the condition of the crippled and deformed children in that city, and to consider plans for their relief. Several of the speakers at the meeting stated that many of the children in Brooklyn who were suffering from chronic joint diseases were taken over to New York for treatment, notwithstanding the facilities offered at home by the Long Island College and the Orthopedic Dispensaries.

Brooklyn Hospital Saturday and Sunday Association.—The receipts of this association for the present year were $5,398.24, of which $965.17 was contributed through the boxes.

Medical Legislation in Oregon.—The Governor of Oregon has vetoed the Power Medical Bill, passed recently by the Legislature, giving, as one reason, that it did not recognize sufficiently the different schools of medical practice. A new bill has now been introduced, which, it is hoped, will prove acceptable to the Governor.

Dr. G. W. Wilkinson, of Dakota City, Neb., has been appointed superintendent of the Norfold Insane Asylum. Dr. Wilkinson is one of the earliest settlers in the State, having resided in Dakota City since 1856.

A Bill to Regulate Medical Practice in Rhode Island is now before the Legislature of that State. The first section of the act provides that only registered physicians shall be allowed to practise medicine in this State, and section 2 is as follows: "Every person in order to be a registered physician within the meaning of this act shall be either a graduate in medicine or a practising physician. Graduates in medicine shall be such as have obtained a diploma from a regularly incorporated school or college of medicine, and shall have presented to the State Board of Medicine satisfactory evidence of their qualifications. A practising physician shall be deemed to be a person who for the —— years next preceding the passage of this act has continuously practised medicine in this State, and who shall have presented to the State Board of Medicine satisfactory evidence of his qualifications, and any other person who shall have presented to the State Board of Medicine satisfactory evidence of his qualifications to practise medicine."

The Camden Medical Society has appointed a committee to urge upon the New Jersey legislature the passage of the Kalisch bill, providing for the establishment of a State Medical Examining Board.

The Medical Library of the University of Pennsylvania is said to be growing very rapidly, having received numerous gifts of books and money. The two principal donors are Dr. Alfred Stillé, who presented a collection of books, numbering 3,000 bound volumes, and 5,000 unbound volumes and pamphlets, and Dr. William Pepper, who more recently gave the greater portion of his own medical library; $15,000 in money has also been received, one-half of which has been expended in the erection of the new library building, while the other half is to be retained as the nucleus of an endowment fund for the purchase of books and medical journals.

Medical College Commencements.—The following are a few of the colleges which have held their commencements this month: Atlanta Medical College, Atlanta, Ga., 51 graduates; College of Physicians and Surgeons, Keokuk, Ia., 61 graduates, five of whom were women; Georgia College of Eclectic Medicine, Atlanta, Ga., 16 graduates, including one woman; Howard University Medical School, Washington, D. C., 26 graduates, one of whom was a woman; Medical College of Ohio, Cincinnati, 91 graduates; Miami Medical College, Cincinnati, 31 graduates; Pulte Medical College, Cincinnati, 16 graduates; Ensworth Medical College, St. Joseph, Mo., 14 graduates; Woman's Medical College of Pennsylvania, Philadelphia, Pa., 40 graduates; Kansas City Medical College, Kansas City, Mo., 16 graduates; Iowa College of Physicians and Surgeons, Des Moines, Ia., 5 male and 2 female graduates; Western Reserve Medical College, Cleveland, O., 30 graduates; Long Island College Hospital, 57 graduates, one of whom was a Chinaman.

Tennessee State Medical Society.—The fifty-seventh annual session of the Tennessee State Medical Society will be held at Memphis, April 8th, 9th, and 10th, at the Gayoso Hotel.

Another Impostor.—We are informed that there is a man at present in the city who makes his living by calling upon physicians in the evening, representing himself to be the brother of a well-known physician of Elizabeth, N. J. His story is that he has suddenly found himself without a cent, and as all the downtown offices are closed, and his friends have gone home, he is obliged to request the loan of a dollar. The man is rather below middle height, of fair complexion, with a brown mustache, and very well dressed. He made the mistake of calling a second time upon the correspondent, who sends us the information for the benefit of others who may be visited and importuned for a small loan.

Iowa State Medical Society.—The thirty-ninth annual session of the Iowa State Medical Society will be held at Des Moines on Wednesday, Thursday, and Friday, April 16th, 17th, and 18th.

The United States Pension Board, at Northampton, Mass., lately reorganized, now contains two homœopathic practitioners.

The South Carolina Board of Medical Examiners held an examination of applicants for license to practise medicine in that State on March 5th. Of the eighteen who applied for license twelve were successful, four were rejected, and two will be re-examined at the next meeting, in April.

St. Mark's Hospital.—The hospital at 66 St. Mark's Place, formerly known as the Association Hospital, has recently been incorporated under the name of the St. Mark's Hospital of New York City. The certificate of incorporation contains the condition that the members of said corporation shall adhere to the theory of medical or surgical treatment known as the regular school, and the system of practice of medicine or treatment which shall be applied in said hospital shall be such as is used by regular practitioners and known as the regular-school system. The Board of Managers for the first year are Eugene Lewis, Max Ruttenan, D. McLean Shaw, Dr. Leonard Weber, Dr. Henry J. Garrigues, Dr. Cæsar A. Van Ramdohr, Dr. Carl Beck, Dr. Emil Neumer, and Dr. Herman J. Boldt. The hospital was formerly supported by contributions from various relief associations, lodges, and the attending medical staff, but by means of this reorganization it is hoped that it will be placed on a better financial footing. Most of the patients are treated free.

Cincinnati Academy of Medicine.—Dr. C. D. Palmer has been re-elected President of the Academy of Medicine of Cincinnati. The membership of the Academy is 164, and is growing steadily.

Measles in Minneapolis.—The Board of Health in Minneapolis is having a hard time endeavoring to restrict the spread of measles, which is epidemic in that city. The trouble is the want of funds, and the city council persistently refuses to increase the appropriation.

Death of Old Andy the Janitor. — Old "Andy" (Andrew Loughlin), the faithful janitor for so many years of the College of Physicians and Surgeons, New York, died March 14th. When the College moved from Twenty-third Street he was too feeble to perform the duties in the new building, and he was consequently retired by the faculty and made an emeritus. He drew his regular wages, as a pension. He moved up near Fifty-ninth Street, and for some time came occasionally to the College and sat in a chair near the front door—as it were playing janitor. For the last year he has been too feeble to do even this. He outlived his wife, and "Tommy," his son. Many of our readers, boys of twenty-five years ago, will remember old Andy, and associate him with pleasant recollections of college life. Good-by, Andy, we are young again when we think of you.

Reviews and Notices of Books.

Wood's Medical and Surgical Monographs. Vol. V., No. 2. New York: William Wood & Co. 1890.

In the February number of this now well known and deservedly popular series of monographs, there is a very interesting and suggestive paper by Dr. A. Haig on "The Formation and Excretion of Uric Acid, as Elucidating its Action in the Causation of Disease." Other articles in the volume are: "The Initial Stages of Consumption; the Nature and Treatment, Including Dietetic Suggestions," by Dr. Horace Dobell, of London, and "Ectopic Pregnancy and Pelvic Hæmatocele," by Mr. Lawson Tait. The first two numbers for this year give promise that the high mark of usefulness reached during the first year of publication will be at least equalled, if it is not surpassed, by the series for 1890.

Contributions to the Surgical Treatment of Tumors of the Abdomen. Part II. Electricity in the Treatment of Uterine Tumors. By Thomas Keith, M.D., LL.D. Edin., and Skene Keith, F.R.C.S. Edin. Pp. viii., 255. Edinburgh: Oliver & Boyd, Tweeddale Court. London: Simpkin, Marshall, Hamilton, Kent & Co., Limited. 1889.

This unassuming little volume possesses more than ordinary interest, as it represents the personal experience of a surgeon who, after achieving remarkable success in the radical treatment of uterine fibroids, has deliberately renounced laparotomy in favor of the method introduced by Apostoli. With characteristic candor and modesty, Dr. Keith indulges in no extravagant generalizations as to what he has done. The book consists of a series of plain, unvarnished statements of clinical facts, from which the reader is at liberty to draw his own inferences. One hundred and six cases are recorded at length, certainly a sufficiently large number to serve as an important addition to the literature of the subject. Discredit has been brought upon Apostoli's method by those whose experience has been too limited, and their experience too imperfect to carry weight with the sceptical; no one can afford to treat lightly the statements of the able and conscientious authors of this book. It is impossible to give the reader an idea of its scope, because, unfortunately, there is no attempt at summarizing. Certain explanations in the preface indicate the routine methods adopted. "About half of the cases that presented themselves were sent away without any treatment, simply because the tumors were giving little or no trouble, or they were near the menopause, when no treatment was necessary." This is a sufficient reply to recent English criticisms of Keith's statistics. "We know now," is stated in another place, "that the cases best treated are those who are suffering much from hemorrhage—the more the better—cases in which something must be done; cases in which, two or three years ago, the question of operation of some kind would have been considered by us." In conclusion we read the sturdy declaration: "We believe it to be the right treatment, and our patients must get it, however great the inconvenience and monotony of it may be to ourselves. Though our results after hysterectomy show the lowest mortality of any yet recorded, and though we have had but a single death after removal of the ovaries for fibroid in almost one hundred operations, we reject even the minor operation in favor of Dr. Apostoli's treatment, and we reject hysterectomy altogether, on account of the mortality that has hitherto attended it all over the world."

Artificial Anæsthesia: A Manual of Anæsthetic Agents and their Employment in the Treatment of Disease. By Laurence Turnbull, M.D., Ph.G., Aural Surgeon to the Jefferson Medical College Hospital, etc. Third edition. Revised and enlarged. With illustrations. Pp. 531. Philadelphia: P. Blakiston, Son & Co. 1890.

The third edition of this valuable manual contains much new matter, and in its present form is one of the most attractive works on this important subject, of which the author strikes the key-note when he says in the preface: "Human life is too valuable at the present day to be destroyed by incompetent administrators of such beneficent, yet death-giving agents." No less than nine chapters are devoted to cocaine, and over three hundred pages to ether and chloroform. We can hardly excuse the author for not absolutely condemning rectal etherization, a procedure which has resulted so disastrously in this city. The relative merits of chloroform and ether are thoroughly discussed, and the author summarizes in a few forcible words, in which he takes a decided stand in favor of the latter anæsthetic. We wish that this little volume might be placed in the hands of every interne who thinks that he knows everything that is worth knowing about the administration of ether.

Through the Ivory Gate: Studies in Psychology and History. By William W. Ireland, M.D. 8vo, pp. 311. Edinburgh: Bell & Bradfute. New York: G. P. Putnam's Sons. 1889.

This book is a companion to the author's well-known work entitled "The Blot upon the Brain." It is a continuation of certain chapters in the latter, a more detailed development of the insane biographies of Swedenborg, Mohammed, Joan of Arc, Mohammed Toghlak, and others. Some of our more recent paranoiacs receive minute and careful description at his hands, and to those interested in such subjects these psychological studies of the lives and deaths of King Ludwig of Bavaria, Charles J. Guiteau, and Louis Riel, will prove absorbingly entertaining. The title of the book originates from some of the ancient poets, who were wont to say that the deluded were visited by spectres which came through the Ivory Gate. Thus Horace (Carm. III., Ode 27): "Do I, in the waking state, deplore the baseness of my fault, or does some vain image, fleeing from the Ivory Gate, delude me, innocent of any misdeed?"

The National Medical Dictionary: Including English, French, German, Italian, and Latin Technical Terms used in Medicine and the Collateral Sciences, and a Series of Useful Data. By John S. Billings, A.M., M.D., LL.D. Edin. and Harv., D.C.L. Oxon., Member of the National Academy of Sciences. Surgeon U. S. A., etc. With the collaboration of W. O. Atwater, M.D., Frank Baker, M.D., S. M. Burnett, M.D., W. T. Councilman, M.D., James M. Flint, M.D., J. A. Kidder, M.D., William Lee, M.D., R. Lorini, M.D., Washington Matthews, M.D., C. S. Minot, M.D., H. C. Yarrow, M.D. In two volumes. Philadelphia: Lea Brothers & Co. 1890.

It is a very difficult matter to form a just estimate of any work of reference, such as an encyclopædeia or a dictionary, except by actual and long-continued trial, for the words that one would need to have explained will naturally not be thought of in the course of an ordinary examination. But as the notice of the book before us could not in justice be deferred until practical experience had demonstrated its true value, we have tested it as carefully as was possible by comparing it with other dictionaries, and by checking off the technical terms found in two articles in German and Italian. We will confess that we had expected to find many omissions of foreign words, but we were agreeably disappointed in this respect. There were omissions, it is true, but not many, and most of the absent words in the German were compounds, the derivatives of which were generally to be found in their proper places. We cannot, however, approve of the way in which the German words have been classified in respect to the modified vowels. These vowels are printed ä, ö, ü, but the words containing them are arranged as if the vowels were printed a e, o e, and u e. Thus *Lahmen* is found on p. 29, volume ii., while *Lähmen* occurs on p. 28, thirty-five titles, filling two columns, being found between the two words. This is not the usual arrangement in dictionaries, and leads to a good deal of confusion in a hurried search after a meaning. The French portion, and the German also, might have been made a little more complete had the compiler consulted Palmer's dictionary. By the majority of physicians, however, the work will be consulted only for the English and Latin terms, and this part is excellent. We have devoted considerable time to the comparison of the book with Dunglison's, Thomas's, and the first volume of Foster's dictionaries, and we have been unable to detect any serious omissions. The definitions are brief and clear, the compiler's aim seeming to have been, very properly, we think, to exclude any semblance to an encyclopædic character. The main fault, and the only serious one, is the size of the work. A two-volume work of reference is much less convenient than one in a single volume, and it is also more expensive. If smaller type had been used, the dictionary might probably have been compressed into one volume. It would not have presented as handsome an appearance, but it would have been more useful, and would have better suited the pockets of the great majority of medical practitioners. The objection to fine print would not be of weight in a work of this kind, for a dictionary is consulted merely, and not read, and the advantage of having it in one volume would have been great. However, we do not mean to be too critical, and this fault is not a fatal one, and to some may even be a recommendation. A number of useful tables in Vol. I. add to the value of the dictionary as a work of reference.

Aerztlicher Almanach. Von Med. Dr. Adolf Kállay. Vienna: Wilhelm Baumüller und Sohn. 1890.

This is the ninth year in which this popular medical almanac has appeared under the editorship of Dr. Kállay, and it loses nothing in interest by age. In addition to the usual information contained in similar works there are papers on the embryology of the kidney, treatment of heart diseases, and diabetes mellitus.

The Principles and Practice of Surgery: Being a Treatise on Surgical Diseases and Injuries. By D. Hayes Agnew, M.D., LL.D., Professor of Surgery, Medical Department, University of Pennsylvania. In three volumes. J. B. Lippincott Co. 1889.

The three large octavo volumes, profusely illustrated, and each averaging over a thousand pages, comprise the second edition of a work already well known and appreciated by all progressive students of surgery. In looking carefully through the large mass of material, many essential changes can be noted in arrangement and amplification, although the general plan of the previous edition is maintained. The author very truthfully says that during the last few years a spirit of extraordinary vitality has pervaded every department of medicine, and in none has it been more active than in that of surgery; that the doctrine of asepsis lies at the foundation of all the recent and splendid achievements wrought in abdominal, pelvic, and cerebral surgery, as well as in the improved management of wounds in general. Proving his faith by his works, he is a consistent aseptic, a firm advocate of the benefits of germicidal agents, and a safe counsellor in all other matters calling for sound judgment based on large experience. In a previous critical review of this work we dwelt somewhat in detail upon the general arrangement of its subjects and their methods of treatment, but this is obviously unnecessary at this time. Suffice it to say that the whole domain of surgery is thoroughly gone over, each of the different surgical diseases is treated in turn, based upon the individual experience of the author. The reader will be struck with the rare judgment shown in the apportionment of spaces to the different topics according to their relative importance, as well as to the judicious conclusions regarding what would appear to be the best treatment. If there is any criticism to be offered in this connection, it would refer to the section on Diseases of the Eye, in which some of the operations upon that organ are not given the attention and space which their importance might demand. Although admitting that the scope of the work would not allow of any change in this regard, it may become a question whether in future editions it might not be well to follow the example of other authors and omit the eye diseases altogether. Considering the number of subjects treated, and notwithstanding the size of the volume, it might seem almost paradoxical to say that the work, as a whole, is a well-condensed review of the present state of surgical science in this and other countries. It stands a monument of a careful study on a branch of medicine to which, as the author says, he has fondly devoted his life, and as such it must command the appreciation of his many admirers and fellow-workers.

Massage and the Swedish Movements. By Kurre W. Ostrom, Instructor in the Pennsylvania University Hospital, etc. Philadelphia: P. Blakiston, Son & Co. 1890.

In a simple and straightforward manner the author discusses in this small manual the various principles of massage and their practical bearings. His excuse for writing the book is that no previous treatises "have been sufficiently explicit" in their directions. We may admit this, but do not find any particular originality in these pages. The illustrations are a help. The writer is to be commended for his ideas in regard to placing massage in general under the control of the medical profession.

A Hand-book of Obstetrical Nursing, for Nurses, Students, and Mothers. By Anna M. Fullerton, M.D. 12mo, pp. 214. Philadelphia: P. Blakiston, Son & Co. 1890.

These pages comprise the substance of an annual lecture course delivered by Dr. Anna E. Bromall to the nurses of the Woman's Hospital of Philadelphia. They are to be commended for their simplicity and directness. In fact, it is hard to see how anyone of ordinary common sense could go astray in following the suggestions given for the various obstetrical emergencies. Thirty-four wood-cuts illustrate important points.

The Physician's Pocket Visiting-list and Ledger. By W. W. Hitchcock, M.D. Los Angeles, Cal.: E. K. Foster.

A combination of day-book and ledger, for pocket use.

Essentials of Obstetrics. By W. E. Ashton, M.D., Demonstrator of Obstetrics, Jefferson Medical College. Saunders's Question-Compend Series, No. 5.

We question whether there is as much need for manuals of this kind in obstetrics as in some other departments of medical study. The author has gone into all necessary details, and the student might well review the general field with the book.

The Animal Alkaloids. By Sir William Aitken, M.D., etc. Second edition. 12mo, pp. 112. Philadelphia: P. Blakiston, Son & Co. 1889.

These lectures treat of the ptomaïnes, leucomaïnes, and extractives in their pathological relations, and were delivered before the English Army Medical School. Frequent allusion is made to the original work of Gautier, Peter, Lauder Brunton, A. M. Brown, and others, and the originality of the author is shown in some interesting as well as practical deductions from the premises laid down.

A "Ptomaïne" is defined as an alkaloid resulting from putrefactive changes in dead animal tissues, and elaborated from proteid material. A "Leucomaïne" is an alkaloid which is a necessary result of a vital physiological process. These latter are being formed in the body constantly, and become toxic only when their elimination is interfered with. "Extractives" are certain azotized, crystallizable substances, undetermined, but more poisonous than either ptomaïnes or leucomaïnes.

In some detail is given a classification of these substances and of their chemical composition, tests, and modes of discovery and isolation. The latter part of the book is given up to a discussion of the practical bearing of all this knowledge on clinical medicine. As the author remarks, this new information will cause a new moulding of many of our ideas on the etiology of disease. We cannot follow out all the questions he propounds, but merely allude to one, viz., the origin *de novo* of some of the so-called germ diseases, *e.g.*: It is found that where men are crowded together, as on shipboard, in barracks, etc., that typhus fever will break out. What is the starting-point where we can entirely preclude the possibility of outside infection? It is, according to the new idea, the auto-infection of one man with his own leucomaïnes and extractives, the normal elimination of which has been interfered with by his temporarily bad environment—bad air, poor sewerage, crowding, etc. From him, as a focus, the disease spreads in the usual manner.

We unhesitatingly commend the book to anyone desiring a concise scientific statement of one of the most interesting of modern medical problems.

Text-book of Medical Chemistry. By Elias H. Bartley, M.D., Professor of Chemistry, Long Island Medical College. Second edition. Pp. 423. Philadelphia: P. Blakiston, Son & Co. 1890.

This book covers the usual ground gone over by medical students in their lectures and laboratory work on chemistry. It is purposely somewhat technical, for it is designed to aid pharmaceutical students also. Under the head of organic chemistry are sections on the natural organic bases or alkaloids, ptomaïnes, and glucosides. Considerable attention is given to physiological chemistry and toxicology. A few pages on urinary analysis are added, and the book closes with a valuable appendix and glossary.

The impression gained on examining the volume is most distinctly favorable. The grouping of topics is systematic, the definitions mathematically precise, and the pages bear evidence of accurate and careful scholarship. It is difficult to prepare a manual that shall be equally good for practitioners, students of medicine, and students of pharmacy, for their practical needs are diverse. So far as it can be done, however, the author has succeeded.

Organic Materia Medica. By John M. Maisch, Phar.D., etc. 8vo, pp. 539. Philadelphia: Lea Brothers & Co. 1890.

The author has been so long before the public as a writer on pharmaceutical topics that any formal commendation is entirely unnecessary. The present is the fourth edition of the book, which is profusely illustrated. It is needed especially by the druggist or physician purchasing drugs in the open market, as by its aid he can easily identify good and detect bad materials. Under each drug name is an epitome of its physiological action, with dose.

A Manual of Nursing. Medical and Surgical. By Laurence Humphrey, M.R.C.S., etc. 8vo, pp. 242. Philadelphia: P. Blakiston, Son & Co. 1890.

The writer is lecturer to the probationers at Addenbrooke's Hospital, Cambridge, and has in these pages formally published the substance of his lecture courses. In addition to what one might expect to find in such a manual, we have, in lay terms, a brief account of the symptoms and management of all the common diseases. The only criticism we have to offer is that it contains too much information for the average nurse to master, and entirely too many directions for a nurse to carry out, on her own responsibility, under any circumstances. If the book is meant for nurses of some years of experience, and not probationers, we would materially modify this criticism.

Prompt Aid to the Injured. By Alvah H. Doty, M.D., New York. Pp. 224. New York: D. Appleton & Co. 1890.

The writer is well known as a successful surgeon, and as being connected with one of the local regiments of the National Guard. In the field covered by "first-aid" literature it is difficult to say anything new outside of the practical points suggested by the experience of each individual writer. Dr. Doty's book is especially valuable to regimental ambulance corps, which usually have more or less personal instruction from their respective surgeons, and are therefore far more capable of appreciating intricate points than is the average layman. The opening chapters are devoted to a description of the body apparatus and the functions of the various organs. Then follow sections on bandaging and antiseptics. The last half is devoted to the detailed consideration of the various medical and surgical emergencies. The final chapter contains the Manual of Transportation now used by the United States Army.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, February 10, 1890.

ROBERT ABBE, M.D., CHAIRMAN.

Fracture of the Patella: Cases Illustrative of the Treatment.—A number of cases illustrating the result of treatment, by different methods, of rupture of the patella were presented by members.

First, THE CHAIRMAN presented a lady who had sustained oblique fracture, extending upward and inward, three years ago. Cutting down upon the fragments, he found their ruptured surfaces covered by a fringe of dense white fibrous structure, which it was necessary to remove. The fragments were then wired, a drainage-tube left in seven days—longer than he would leave it in another case since it probably increased the amount of stiffness of the knee. The patient had a very useful limb, with some stiffness.

Fracture of the Patella Four Times.—The second case presented by the Chairman was that of a man who during the past twelve years had sustained fracture of the patella four times. Dr. Phelps had wired the third fracture, and the fourth one took place at a point below. The healing after the fourth rupture left the fragments considerably separated, and the knee weak. For this reason Dr. Abbe divided the quadriceps and brought the fragments as nearly together as possible and wired them. The knee was now strong, the patient could walk up-stairs without support, but motion was not quite as free as it had been. The fragments were still separated an inch and three-quarters. There was a slight discharge from a small sinus, which, however, caused no inconvenience. The silver wire used at the time of the third fracture was still in position when he operated.

A specimen showing bony union between the two fragments of the fractured patella, which had been wired five years previously by Dr. Thomas M. Markoe, was presented by the Chairman. Suppuration had developed in the joint some time after the fracture and led to anchylosis. Death was due to pyæmia. The specimen was obtained at the autopsy.

DR. W. T. BULL presented nine patients whom he had treated without operation for rupture of the patella, whose histories were embodied in a paper which he read later.

Several Cases Treated by the Open Method.—DR. WILLIAM F. FLUHRER presented several patients, the first one being a man whose fractured patella was treated successfully by wiring, October, 1887, and ten weeks afterward he was able to flex the knee to a right angle, but on one occasion he over-flexed it and the fragments again separated. They were wired within twenty-four hours, and he acquired afterward apparently bony union with full use of the limb. The second patient was operated upon in 1885, and within seven weeks he had also acquired power of flexion beyond a right angle, but while pushing a chair before him he slipped and fell forcibly, causing refracture. It was wired within twenty-four hours, motion begun in three weeks, full power in ten months, with apparently bony union. The third case was in a man who fractured the patella by direct violence, and when he operated twelve days later the lower fragment was found completely separate and free beneath the skin. It was taken away. Silk-worm gut was used for the suture. The man acquired complete power of extension, but not quite complete flexion. In the next case, operated upon in 1885, there was some objection to giving ether. He introduced a needle and tried to lift the enfolded tissue from over the fractured surfaces of the bones, brought them then into apposition, and applied a plaster-of-Paris splint. Full power resulted.

Delayed Operation.—DR. WILLY MEYER presented a lad who had sustained fracture of the patella in December, 1888. He lay abed eight days. Dr. Meyer saw him ten weeks later, when he had a perfectly useless limb, not being able even to lift it. He cut down and brought the fragments in apposition, although with some difficulty, and wired them. The patient was permitted up to the present to flex the knee only to eighty degrees, and wore a splint. The limb promised to be a very useful one.

DR. W. T. BULL then read a paper (see p. 313) on "The Results of Treatment of Fracture of the Patella without Operation."

The Pendulum Swinging Again.—THE CHAIRMAN in calling for discussion upon the paper, remarked that the old story of the swinging of the pendulum was again applicable to operative treatment of fracture of the patella.

Can Bony Union be Obtained?—DR. L. A. STIMSON had wired the patella in one case after refracture, the former treatment having also been by metal suture, with reported bony union, but he found that while the fragments had been closely approximated, the union was not in reality bony, but fibrous. He did not think we were justified in claiming bony union for any case until the patella had been taken out and sawed in two. Liability to refracture was dependent, he thought, not upon the fact whether the union were either bony or fibrous, but rather upon partial fixation of the upper fragment from shrinkage of the lateral ligaments. In no case of wiring which he had seen had flexion to a right angle been possible within three months. Accidental over-flexion was pretty sure to produce refracture, and it would be compound because of adhesion between the bone and skin. There was growing distrust of wiring the patella. It was possible, however, that some more favorable method might be introduced.

That Fibrous Fringe.—This was found between the fragments at one part in a case in which an autopsy was obtained some time after union had taken place between the fractured parts sutured by silk, and yet he was able to obtain crepitus.

A New Method.—This he had performed in twenty-four cases, with good result, and without accident, excepting in two in which there was suppuration. It consisted in injecting cocaine at four points over the patella, two above and two below, some distance from the median line, and passing a silk suture, commencing at one point, going beneath the fibrous covering of the fragment down upon the bone, out at the point on the other side, reinserting the needle, passing to and out at the point below, again reinserting it and passing beneath the fibrous covering of the other fragment, and so around until the point of commencement was reached, when the ends were united and the fragments approximated. Splints were afterward employed. The method was simply on trial.

Believes in Mechanical Treatment.—DR. CHARLES MCBURNEY agreed with the views expressed in the paper. He had from the beginning felt strongly opposed to operative treatment except in compound and a form of oblique fracture. In one case of refracture, in which he feared there was a mass of intervening tissue, he wired the fragments, but in that instance, although the functional result was good, flexion was not complete. He had heard of a number of cases of very bad results following the operative method. In one anchylosis followed suppuration in both joints. In another there was suppuration and death. Thus there was undoubtedly a strong element of danger introduced by the operative method, while non-operative methods, with certain exceptions, gave very satisfactory results. He was satisfied if he got ligamentous union with not more than an inch and a half separation of the fragments, for function was sufficiently good. In backward and upward oblique fracture the open method was necessary. The longer the ligamentous union above an inch the more unfavorable the functional results.

To approximate the fragments he applied strips of

adhesive plaster over the quadriceps femoris, terminating in a strap, which he passed through a buckle similarly attached below. By leaving a fenestrum in the plaster-of-Paris splint, these straps could be drawn nearer together in the course of the case.

Dr. Charles Phelps said he had sutured the fractured patella in a number of cases, and had had no serious results, although in some there had been superficial suppuration. He intended sometime to collate them.

Dr. Carmalt, of New Haven, said his experience with the operative method was limited to two old cases in which there was a useless joint. He had never felt himself quite justified in operating in fresh cases where mechanical means brought the fragments in fairly good position. He preferred elastic to fixed extension.

Ten Operations without Suppuration.—Dr. Fluhrer said he had operated in ten cases of simple fracture of the patella in Bellevue Hospital without suppuration in any, although sepsis was known sometimes to be present in the ward. The method, he thought, was safe if antisepsis were strictly observed.

Dr. Joseph D. Bryant had wired four patellæ, in the first three instances to show how easily it could be done, and obtained a perfect success; in the fourth case he operated because he thought he should. Some caries of the bone took place along the wire, but it did not implicate the joint. He believed as he had expressed himself three years ago, to the effect that only in exceptional instances should operative methods supplant the mechanical.

Death from Suppuration.—Dr. Thomas Manley at one time, reasoning from the stand-point of the enthusiastic believer in antisepsis, entertained the view that the proper method of treating not only fracture of the patella but also fracture of long bones, was the open one. He tried it in the case of a long bone and the fragments did not unite. The last patella which he wired, and the last he expected ever to wire, was fractured last spring. Long-continued suppuration and finally death followed the wiring.

Dr. Spencer, of Watertown, had used only mechanical methods, and had heard of no complaints from his patients, all of whom were seen in private practice.

Dr. Willy Meyer thought it proper to wire the fragments if strict antisepsis could be observed.

The Chairman thought the operative method should be approached with great caution.

What Constitutes the Real Injury?—Dr. Hopkins, of Brooklyn, held the view, based on many dissections, that fracture of the patella bone itself was of little importance. It was rupture of the lateral tendons which constituted the real injury, and as these were distributed differently in different individuals, especial attention should be given to uniting them rather than to simply wiring the fragments of the bone.

Mechanical Treatment Best for the General Practitioner.—Dr. Bull, in his closing remarks, expressed his appreciation of the brilliant results following operative treatment when unattended by complications, but there was a danger connected with it which made it unsafe for general use. Regarding the details of the mechanical treatment, he placed quite as much confidence in a simple roller bandage in approximating the fragments as he did in adhesive straps spoken of by Dr. McBurney and Dr. Carmalt.

SECTION ON THEORY AND PRACTICE OF MEDICINE.

Stated Meeting, February 18, 1890.

Francis Delafield, M.D., Chairman.

The Mortality from Phthisis in Brooklyn and New York.—Dr. F. B. Westbrook read a paper with the above title, considering some phases of mortality of cities which are not usually discussed by systematic writers on phthisis. He enunciated the following propositions:

1. City life *per se* is not necessarily more detrimental to health or longevity than residence in the rural districts.

2. The relatively greater mortality observed in cities is the result of causes which should be equally efficient in whatever locality they might be operative.

3. The cause of the high death-rate among urban populations is to be sought in defective systems of sewerage; in the presence of large manufacturing establishments and other industries, in the pursuit of which many people are crowded together in a small space, with inadequate ventilation, or subjected to pernicious influences of irritating dusts and poisonous gases; in the existence of the lowest grades of tenement-houses; in the multiplication of groggeries, and the imperfections in the workings of the sanitary departments of municipal governments. A possible exception may be found in the greater difficulty in the limitation of the spread of contagious diseases in densely populated districts.

4. In addition to the above causes, which may fairly be said to be preventable, the mortality from phthisis in our American cities is greatly augmented by the presence of immigrants and their immediate descendants. The data at command are not sufficient to give any indications as to the number of generations for which this increased susceptibility to phthisis is or will be continued; but there can be no reasonable doubt that the process of natural selection and the intermingling of races will gradually obliterate it.

In the State of New York, he said, the deaths from consumption per thousand inhabitants is 2.5; in the city of New York, 3.5; and in the city of Brooklyn, 2.9. A fact of great importance, and one of which little had been said by the writers upon the subject, was, that while the total mortality of the large cities is somewhat excessive, there are differences among the various districts of the cities themselves, and that to such an extent that the death-rate of one ward may be two or three fold that of another. For instance, the death-rate from consumption in the Twenty-fourth Ward of Brooklyn in 1889 was 5.685, while that in the Twenty-third Ward was only 1.203, and the total for the city was 2.460. In New York the rate for phthisis in the Fifteenth Ward was 2.88, in the Twenty-third Ward 6.07, and in the Twelfth Ward 9.71; while in the entire city it was 3.318. The causes of these wide variations were the character of the location as regards soil and drainage, the presence or absence of the worst class of tenements, the presence of public institutions, particularly hospitals, and the nationality of the inhabitants.

Having given an analysis of the mortality from phthisis in a number of the wards of Brooklyn, and stated that the same analysis of the wards of New York would give a similar result, he said he would not undertake a defence of his second and third propositions, as their truth would probably be admitted by all. As to the influence exerted by the presence of foreign races undergoing the process of acclimatization, the number of immigrants in Brooklyn and New York was so great that its effect upon vital statistics was very decided, and easily computed in so far as our imperfect system of registration permitted of computation.

The tendency of races to die out when they are first transplanted to a country in which the conditions of life are widely different from those at home was well known. While, however, even a majority of the immigrants might have succumbed to their unaccustomed surroundings, or failed in the act of reproduction, there had been a few more sturdy ones who had successfully resisted the unfavorable action of their new environment, and produced children as favorably constructed as themselves. By the successive increase of these generations of properly adapted individuals, the character of the people as a whole was modified and the race firmly established.

The reproductive power in immigrants might be either greatly reduced, or it might be qualitatively affected; so that they begot children of a more delicate constitution than themselves. If the latter was the case, the race was

likely to deteriorate through several generations, unless some improvement resulted from intermarriage with more robust people.

In the city of Brooklyn, during the year 1889, there were 2,055 deaths from phthisis; of which 1,193 were in persons born in the United States, and 859 in foreigners. Unfortunately, the method of registration did not render it possible to classify the foreigners according to their respective nationalities; but the nativities of their parents were given, and in order to ascertain the number of those born in the United States whose parents were immigrants, he had deducted the whole number of foreign-born from the whole number of those whose parents were foreign-born. The death-rate from phthisis in this class was very high, viz., thirty-seven per cent. of the whole number.

What Are the Conditions which Predispose to Tubercular Consumption?—Dr. Albert L. Loomis said it was very difficult to fairly discuss a statistical paper like that of Dr. Westbrook, because so much depended upon the sources from which the statistics were derived, and upon how completely all vitiating circumstances had been eliminated. This also made the conclusions which may have been reached from statistics very uncertain. Dr. Westbrook's statistics, however, had no doubt been collected with great care; and they proved simply that under unhygienic conditions the death-rate from phthisis was higher than under good hygienic conditions. They went a little further, also, and showed that the descendants of certain races offered greater power of resistance to tubercular disease than those of others. His statement that the mortality was higher in the third and fourth generations of those descended from Irish immigrants, than in those who were born in Ireland and came to this country, would not astonish those who were familiar with the mode of life of such individuals, the conditions surrounding which are a fruitful source of great mortality, not only from phthisis but from every prevailing disease. He believed, however, that with some other races the case was different. Among the Scotch, for instance, he thought it would be found that there was no greater mortality in the succeeding generations than in the original stock. It was always a considerable risk for anyone not very strong to go into a new climate and get acclimatized to it.

It seemed to him that this whole discussion must hinge upon the question, What are the conditions which predispose an individual to pulmonary phthisis? He thought it safe to assume that there was always a period of general decline which precedes bacillary infection. If we believed that phthisis is due to the tubercle bacillus, we would expect it to be found wherever it should find its sustenance and have a chance to grow and multiply. Consequently, in large cities one must necessarily be more exposed to the risk of infection than in the country. In cities there was a better soil for the development and activity of the bacillus, and hence there would naturally be a greater death-rate from phthisis than in the country. In the former all the conditions favored this—bad ventilation, bad diet, improper modes of life, etc. Whatever impaired vitality favored the lodgement and development of the bacillus, and would be a cause for the greater prevalence and mortality of phthisis. If there was any soil favorable for the tubercle bacillus, it was to be found among tenement-house children, and those reaching adult life amid the surroundings commonly met with in the tenement-house population. If we accepted the bacillary theory of phthisis, he thought it must be apparent to all that it is simply the power of resistance which gives one individual immunity from this disease and predisposes another to it.

Aside from other conditions, we know that there are certain soils on which tuberculosis would thrive. Thus, Laënnec related that for twenty years, at a certain convent located in a clay cut, every nun died of phthisis. It might have been that the entire building was filled with tubercle bacilli; but, at all events it certainly seemed that the location of the institution had something to do with the remarkable prevalence and mortality of the disease. All such papers as that presented this evening, he believed, would help us to solve the difficulties met with in connection with the etiology of phthisis.

Effects of Acclimatization on Different Races.—Dr. Westbrook said that he thought it was true, as Dr. Loomis had said, that there was a great difference in the effects of acclimatization on different races. Different results were also noted in individuals of the same race who migrated to different climates. Thus, among those who went to tropical countries, it was found that the climate had a marked effect in diminishing fecundity; while among those who went to an inclement climate, such as was met with along the northeastern coast of the United States, the health of the individuals became impaired and their descendants were not robust.

As Dr. Loomis had remarked, children in the tenement-houses of cities had a bad start from the first, and the other unfavorable conditions to which he referred continued to act during the remainder of their lives. He thought, however, that even among the better class of Irish the same deterioration of health would be found to exist to a very considerable extent; and it had occurred to him that the change of temperature, the greater fluctuations of temperature than those to which they had been accustomed in their former home, and the rapid changes from moisture to dryness, and *vice versâ*, must have a very deteriorating effect. It might be stated, also, as a general fact, that the accommodation of the body to these changes, involving prompt readjustments to meet the sudden changes in humidity, as well as many other circumstances incident to the different climate and mode of life, all involved the expenditure of a considerable amount of vital energy. A further cause of ill health arose from the necessity of digesting an entirely different diet from that to which they had been accustomed. Moreover, it was a fact that the men, at least, were obliged to work much harder than they were in the old country. Finally, he believed that the prolonged deterioration in the health of their descendants was due, to some extent, to the circumstance that, on account of their religion, the Irish were prevented in a great measure from intermarrying with other races. If they could have some good native American stock mingled with their own, he had no doubt that it would have a very good effect in fortifying the offspring against the deteriorating influences referred to.

In regard to statistics and their uncertainty, there was unfortunately too much truth in what Dr. Loomis had said of them. The records of our boards of health were defective in many respects, and upon some points of importance afforded no information whatever. As far as the actual mortality was concerned, however, and the difference in this respect between different wards of the same city, the figures he believed were entirely reliable.

Dr. S. Baruch read a paper on "The Treatment of Typhoid Fever; a Review of Recent Discussions" (see p. 318).

Discussion.—Dr. Alfred L. Loomis said that he hardly felt prepared at the present time to discuss the treatment of typhoid by cold baths. If such baths were given for their antipyretic effect, it seemed to him that the reduction of temperature could be secured by simpler and better means than this. He was glad that Dr. Baruch was an enthusiast on this subject, and that he was willing to go as far as the law allows, and even a little further, in his advocacy of the method. When he compared the condition met with in typhoid fever to opium poisoning, however, it seemed to him that he did not properly recognize the cause of the toxæmia that was present in typhoid. The latter was believed to be due to the action of a specific infection, and such was certainly not the case in poisoning by opium. The two conditions were very different, and he did not see how they could very well be compared.

From what little experience he had had with cold bathing in typhoid, he believed that it was a powerful agent

for restoring vitality if properly employed, and that it was a powerful agent for destroying vitality if improperly used. As to its antipyretic power, there certainly could be no doubt; but when the cold bath was given without regard to its effect upon the heart, the capillary circulation, etc., it seemed to him that it was liable to do very great harm.

As regards the statistics of typhoid fever, there were very strange things. During the last two months he had treated twenty cases of the disease by means of the cold coil, without a single death; but it did not follow from this that the cold coil was the best or only treatment to be used in typhoid. If we based our opinions on statistics, he believed we were liable to error. Dr. Baruch had unquestionably placed these statistics in a most enticing way before us; and yet he felt convinced that, if he permitted himself to be guided wholly by them, he would almost surely have reason, sooner or later, to regret that he had done so. At the same time, if the opportunity occurred to him to treat a large number of typhoid cases together, he would be glad to give the method so eloquently advocated a thorough trial.

The CHAIRMAN said it was very difficult to speak intelligently about a matter in regard to which one had had no experience. Personally, he had had no real experience with the Brand method of cold bathing. The point brought out in the paper, that in the United States we have never really tried this treatment, was correct. It was a fact, he believed, that scarcely anyone here had carried out the whole treatment thoroughly. One reason for this, no doubt, was the inefficient character of most hospital nursing in the United States. The great difficulty was to get a sufficient number of nurses for the very exacting requirements of the method.

He confessed that he had had the idea that, perhaps one reason why the patients treated by strict cold bathing had done so well, was because this treatment consisted simply of three things, viz., *first*, bathing; *second*, feeding; *third*, stimulation. The fact was that in the so-called expectant plan of treatment, a very considerable amount of medicine of various kinds was almost invariably given. On the other hand, patients treated by the Brand method received no medicine whatever, and he could not but feel that this absence of drugs had something to do with the favorable results noted.

The Object of Cold Baths not to Reduce Temperature.—DR. BARUCH, in closing the discussion, said he was very glad to have been able to show that the main object of the treatment by cold baths was not to reduce temperature, but to furnish a restorative and stimulant to the nervous system. Brand, indeed, now claimed that his method was antipyretic. It was Liebermeister who was the leading spirit in proclaiming that the benefit derived from cold baths was due to their antipyretic effect, and after giving a bath he often administered forty or fifty grains of quinine for the purpose of keeping the temperature down after it had been reduced by the bath. But the result of this treatment was a mortality of eighteen per cent.

His object, then, was to show that the cold bath is not meant for the purpose of antipyresis. Antipyrine, as he had found to his cost, would bring down the temperature much more efficiently than the cold bath. As to his analogy between typhoid toxæmia and opium poisoning, he granted that the comparison might be defective in some particulars; but, at the same time, he thought the main points would hold good. In both cases we had a profound poisoning of the system, though in one case the poison acted rapidly and in the other slowly. In both the poison would become eliminated in the course of time, if we could but support the patient and prolong life until nature could accomplish this; and in both, therefore, the indication was simply to fortify the flagging powers until this could be accomplished. He did not claim that we could *cure* typhoid; but it was a self-limited disease, and what we had to do was to maintain life until it had run its course.

In regard to statistics, it was true that twenty or thirty, or even a hundred cases, were of no practical value; but if we had vast numbers of cases, the correctness of whose data was vouched for by men of the highest scientific attainments and reputation, he believed that such statistics were to be trusted.

The omission of medicine in the strict bath treatment was, perhaps, as Dr. Delafield had suggested, of great value. It seemed probable that often the medicinal treatment employed had actually damaged our patients, and in what was known as the combined treatment, in which drugs of various kinds were employed in addition to cold baths, the mortality, as had been shown in the paper, was very large.

Correspondence.

CONJUGALITIES.

To the Editor of the Medical Record.

SIR: Medical science, by an herculean labor on the part of its votaries, has educated the people in many branches relating to hygiene. The task began in an ancient time, but it has been within a comparatively recent date that the teachings have borne their ripest fruit. Memory need not fatigue itself in recalling the time when New York City was devoid of any sanitary legislation worthy of mention. Through the efforts of the medical profession the people and legislature were so enlightened that it became possible to establish a board of health based on scientific principles. Such a board is now regarded as a necessity, as an inherent part of municipal government, and a metropolitan example has spurred villages and cities, States, and the nation to unwonted activities which have promoted the general welfare.

Hygiene embraces within its scope a large number of laws, some of them relating to the body politic, and others to individual life. Many of the former can be judiciously codified, and can be enacted and enforced by legislation. Those of the latter group are so closely allied to the personalities of life that they cannot ordinarily come within the province of legislative enactment. Man, while a free agent, either to obey or to disregard them, must be so instructed that he will voluntarily yield to them submission. Hygiene is not regarded as a socialistic branch of medicine; its teachings are based on such sound foundations that they carry a conviction of their truth to the enlightened popular mind. In the wide-spread diffusion of modern medical thought the laity can almost acquire as accurate a knowledge in regard to living auspiciously as though each member of society belonged to the healing art. Academies and universities now give instruction to the youth in sanitary matters, and the gymnasium is often an adjunct of seminaries of learning and other institutions. Out-door sports are annually becoming more and more in favor, and the word outing is one of the most popularly quoted terms from the lexicographer's budget.

While there is such a widely diffused general information concerning matters relating to fresh air, exercise, sleeping, eating, drinking, clothing, bathing, etc., there is a deplorable amount of ignorance prevalent in regard to others which are of vital importance both to the individual and the race. How faulty is the education of youth in regard to the uses and abuses of the genital organs! Parents naturally shrink from talking with their children on such subjects, and children, with a kindred delicacy, shrink from making inquiries which are evolved by their ripening years. Untutored in such regards, licentiousness is smuggled into the lovely young hearts of purity, corrupting budding imaginations, and at times inducing physical and mental disturbances which prove a permanent cause of disaster through life.

It is a holy study, worthy of the medical profession, to decide how to counsel parents in regard to judiciously and chastely imparting instruction to the rising generations,

on a topic concerning which there must always be a modest, yes, a sacred reticence.

Time does not permit of a halt to consider this very important subject, for another theme is pressing for consideration, relating to matrimony, and the healthful perpetuity of the human race. No bashful tongue-tie need embarrass physicians in enlightening the world regarding certain conditions which are absolutely essential to make the closest relationship of life a blessing to the individual, to the family, and to mankind. It would seem as if the world had had ample opportunities of learning how to wed wisely, but it is too evident that it is not only desirable but essential that some sound hygienic principles regarding the topic should be more fully and distinctly enunciated if the human family is to improve the quality of its stock.

In a beautiful form of church service relating to the solemnization of matrimony occur these words: it "is not by any to be entered into unadvisedly or lightly; but reverently, discreetly, advisedly, soberly, and in the fear of God." Suppose, for an instant, that the mass of mankind married "reverently, discreetly, advisedly, soberly, and in the fear of God." and if those who had no fear of God in their souls, should marry "discreetly, advisedly, soberly," what an evolution from the present condition of man would occur, both mentally and physically, and what a new, happier, and nobler type of manhood would be established.

In the same service from which I have quoted also occur these words: "If any man can show just cause why they may not lawfully be joined together, let him now speak, or else hereafter forever hold his peace." Suppose that a physician should rise from the group of assembled guests and resent the union, saying that it is contrary to the laws of nature that this man and this woman be wedded. According to the circumstances of the case, he could in one instance object that the perils of maternity could not be borne, in another that the offspring of such union would prove puny and futile, and in others predict descendants who would perpetuate inherited taints of intemperance, insanity, scrofula, syphilis, cancer, and allied disorders. In other words, to object to the union by reason of the misery it would entail on the contracting parties, and also upon unborn ages.

Such an interruption to a marriage rite would excite as great a consternation as that experienced by Prince Henry, the Norman prelates, and a multitude of clergy and people at the burial service of William the Conqueror, when a bishop's over-eulogy of the deceased met with public resentment on the part of a daring auditor in the church of St. Stephen. Physicians to-day can find as good cause for interrupting a number of marriage ceremonies as Asceline Fitz Arthur had for interrupting the funeral services of a king.

Such methods of thwarting hygienically inappropriate unions would very properly be met with indignation; but, fortunately, there is a righteous course of making impossible the possibility of such ungracious discourtesies. If the people are thoroughly instructed in the benign laws of hygiene, before an initial step is taken looking to a marital alliance, and if they can be made to profit therefrom, then the time will arrive when the present hobbledehoyical human race will more nearly approach a normal type of existence. Civilization, lopping off its lethal tendencies, will develop a manhood possessed of length of days and conspicuous for its mental and physical vigor, and civilization, thus healthfully growing, will solve the social questions which now seem so enigmatical. It is not to be supposed that hygiene can formulate its laws into groups of decalogues and "eikosilogues," and thus single-handed elevate mankind; morality and science must combine in sounding their respective glad tidings.

"Nature abhors a vacuum," and is so generally conservative that it often happens that marriages taking place under apparently most unpromising circumstances, result in families more sturdy than human prophecy could have anticipated. As no such merciful and undeserved beneficence can be foreseen, people in mating cannot rely upon miraculous interpositions to avert the miseries known to be ordinarily incident to abnormal unions. Life under the most favorable initial conditions is liable to its future harsh and unexpected vicissitudes, and it must be admitted that apparently robust parents will sometimes beget and will bear feeble children. Such fortuitous occurrences render it all the more foolhardy to take voluntary chances against conditions which, in the ordinary course of events, generally prove disastrous. It is more illicit, indeed, than to be engaged in any lottery illegalized by human enactment.

Special attention is now being paid to the choice raising of poultry and cattle, and at the annual dog-shows both the young and the old exhibitors of both sexes boast of the pure breeds of their canines and trace their genealogical orders. If such attention is paid to the rearing of the inferior animals, of how much more importance is it to maintain a pure human lineage! From an early period of time the topic under consideration has been a subject of study, but the people have recklessly progressed unmindful of their instruction, and the world teems to-day with woe-begone inhabitants. The human family is a rather forlorn spectacle of mental and physical disability, if compared with a high type within its possibility.

The benevolent are endeavoring to ameliorate the condition of those who reside in slums. Among a large proportion of the well-to-do classes of society the earthly houses of their tabernacles are tenanted by corrupt taints. Hereditary and thieving vitiations of a variety of kinds find lurking-places and haunts in the bodies of both the rich and the poor, robbing mankind of happiness, and in large measure preventing healthful development, ripe culture, true morality, and a normal propagation of the race. The Lacedæmonians thought so much of maintaining their regal blood that they fined their king, Archidamus, for marrying a diminutive woman, for they said, "She will bring us a race of kinglets instead of kings."

Medical science is often ridiculed for its uncertainty and inefficiency, but the science is not deserving of contempt and censure. Physicians frequently find parturient women almost incapable of bearing either easy or severe travails, from causes partly inherited and partly attributable to their former hygienically irregular modes of life. A number of the neuroses and disorders of the maternal state are not such as necessarily belong to the penalty, "in sorrow thou shalt bring forth children." Many of the diseases of both single and married women are essentially preventable, and are as illegitimate belongings as though they were bastards. Noble as it is in science to furnish a group of experts to grapple with such maladies, it is nevertheless a disgrace to the century that there is a necessity for any such class of specialists. Lycurgus, on being asked why he ordered out-door athletic exercises for the maidens, replied: "To the end that the fruit they conceive may take deep root, grow strong, and spread itself in stout and healthy bodies; and withal that they may be more able to undergo the pains of child-bearing; and, lastly, if necessity should require, that they fight in defence of their children and country."

Young men, either with or without hereditary indispositions, by recklessness of living often impair the foundations of their future lives. Many, without being profligate, in many ways undermine their vitality. Thus, it is that the moral as well as the immoral are sometimes almost alike unworthy to assume the paternal state.

Physicians are constantly summoned to attend puny infants, who by most assiduous care may possibly be nursed into their teens of months, with then the slightest probability of reaching their teens in years, if smitten with any serious disorder. It would be an unpardonable offence if the medical attendant should say to the parents of such children: "Your early wild-oatism is now becomingly rewarded by these feeble and liliputian descendants."

From time immemorial the world has been seeking for an *elixir of life*. If we possessed such an elixir to-day, its use would not be confined to the *roués* of creation or to the octogenarial period of life. The supply would have to be well-nigh inexhaustible, in order to employ it in the early periods of infancy, among children born in unnatural wedlocks. Horrible to relate, in occasional instances infants are born who are dotaged and diseased, and appearing as if their brief uterine life had been spent on a Bacchanalian debauch. In the more ordinary course of events, how often does it happen that a mother has little occasion "for joy that a man is born into the world!"

The term matrimony is derived from the Latin word *matrimonium*, signifying wedlock; which in turn is derived from the word *mater*, or mother. Certainly a hallowed meaning is attached to the root of the word. The final syllables, viz., mony, closely resemble the word money, but these syllables in the word matrimony have no possible pecuniary significance. It must be acknowledged, however, that moneyed and social interests often unrighteously influence conjugal affiliations, and untold miseries are thus often entailed upon mankind.

The word mother is the holiest word which can be uttered by man in relation to human affairs. We cannot help honoring that old tribe who, being unable to comprehend the omnipresence of a Superior Being, held as a tenet that "as God could not be everywhere, he invented mothers." What a crystallized essence of pure and holy thought animated such a people. Provident foresight in regard to assuming the expenses of married life is indispensable to insure future happiness, but nuptial gyves, assumed essentially for pecuniary and social reasons, are ordinarily shackles of torment. Such is the observation of physicians, who by reason of their calling are so situated as to be able to note the secrets of domestic life, while holding them in sacred confidence.

These latter thoughts, however, are entirely tangential to the topic under consideration. The public look to special teachers for the enunciations of the principles of morality, and do not necessarily expect discourses and epistles from medical men which are distinctly ethical in their nature. It is, however, legitimately within the domain of the science of medicine to instruct the world on certain hygienic subjects, relating to wedlock, which are very largely overlooked by those entering the marital state.

Such wholesome instruction is now being widely imparted in relation to personal hygiene, is it not also a dictate of humanity to more urgently impress upon the minds of the people, as an important truth, that when wedding, companions should be chosen who have health of mind and body, and who are exempt from pernicious hereditary taints? As attachments leading to matrimony are often formed early in life, it essentially devolves upon parents, if they affectionately regard the true welfare of their children, to educate them so beneficently that the youths in choosing partners shall select and shall wed wisely. If to the attention now being given to securing mental and physical vigor there be added an equal attention in regard to the selection of life-mates, what grand results would accrue to the health and happiness of mankind! How much less would there be seen in the world

> "Of ghastly spasm, or racking torture, qualms
> Of heart-sick agony, all feverous kinds,
> Convulsions, epilepsies, fierce catarrhs,
> Intestine stone and ulcer, colic pangs,
> Demoniac phrenzy, moping melancholy,
> And moon-struck madness, pining atrophy,
> Marasmus, and wide-wasting pestilence,
> Dropsies, and asthmas, and joint-racking rheums."

Some marital unions are so uncanny that it was iniquitous in the parties who performed the marriage ceremonies. The clergy sometimes decline or hesitate to render funeral rites over the dead; a superlative conscientiousness should certainly prevail in regard to tying a nuptial knot. If the antecedents of contracting parties are not known, or if known are unpropitious, there is a necessity for inquiry, or for a cautious and judicious course of action on the part of the clergy. A clergyman may often be placed in a most delicate position in reference to deciding what is the path of duty in relation to such cases, but every community expects its clergy to act with a feeling of personal responsibility concerning the propriety of uniting parties in wedlock. The noblest callings in life, viz., divinity and medicine, can be more closely allied by a co-operation in teaching the world how to wed properly. It is a difficult task, but each profession has its holy purpose and does not shrink from arduous work in combating human errors.

Hygiene, in promoting the health and happiness of mankind, favors matrimony. It teaches how the robust can retain strength of mind and body, how the feeble can acquire vigor, and how those who are wedding can do so under the most auspicious circumstances.

People need not possess a morbid fear, in regard to wedding hygienically and propitiously. There are here, as in other communities, those of both sexes who are pure in heart and sufficiently sound in mind and body, who are befittingly adapted to become brides and grooms. Singular to say, many of those fitted either to woo or to be wooed fancy and select lives of celibacy, while others, disqualified for spousal rites, form matrimonial alliances and plunge into a maëlstrom of misery.

Lord Bacon very epigrammatically said: "Certainly the best works and of greatest merit for the public have proceeded from the unmarried or childless men, who both in affection and means have married and endowed the public." William Farr, M.D., F.R.S., in addressing the British National Association for the Promotion of Social Science, remarked: "In every society large numbers will not, and large numbers should not marry. They have wide fields of life before them, and public works, devotion, noble foundations, friendly love, will enable them to achieve those triumphs which Bacon has taught us to expect at their hands."

Let the medical profession, while instructing the people in regard to the general sanitary laws which promote the public and private welfare, raise its voice, in a becoming manner, regarding the hygienic rules which should govern those proposing to enter the conjugal state. Let the medical profession of to-day manfully perform its high office, and, in passing from the scene of action, with the waning century, leave as a benediction to mankind of the twentieth century the words which Milton placed in the mouth of the Archangel Michael, in addressing Adam:

> "So may'st thou live, till, like ripe fruit, thou drop
> Into thy mother's lap; or be with ease
> Gathered, not harshly pluck'd, for death mature."

HYGIENIST.

CONCERNING A CLINICAL STUDY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD of February 22d Dr. H. H. Spiers relates a case under the title "A Clinical Study," and at the end thereof propounds a number of questions to be answered, I presume, by each reader to his own satisfaction. Before this can be done it would be very desirable to know something further in regard to the pathological conditions found at the autopsy.

We are told that "the left kidney, enlarged to three times its natural size, lay about two inches to the left of the umbilicus, close to the anterior wall," also, that one-third of the organ was gone. We are told nothing whatever of the nature of this enlargement, either macroscopic or microscopic; nor are we informed in regard to what was found in the place where this kidney normally ought to be.

We are also told that the liver was "twice its natural size, and indentations on its surface made by the ribs." Was this its only departure from a normal state?

It is also stated that there was "a quart of sanious

clotted blood in the abdominal cavity. . . . in connection with the colon by many openings." We are left in complete darkness as to the condition of the colon, its walls and lumen, or the location of these many openings. Was any evidence of obstruction found?

These are some of the questions which must be answered before an intelligent answer can be given to those propounded at the end of the article.

One other point I wish to touch upon. The doctor states that "in all cases of tumor of uncertain character an exploring needle is perfectly proper." This I will not attempt to gainsay, but would like to add that in the present state of our art an exploratory laparotomy is perfectly proper if puncture does not clear up the diagnosis. This is especially true when chronic intestinal obstruction of six weeks' standing is accepted as the probable diagnosis.

This procedure, executed under aseptic conditions, would not have affected the prognosis unfavorably in any great degree. Even the insufflation of air or hydrogen gas would have given valuable information in regard to the relations of the bowel and the tumor.

With our journals almost weekly giving instances of the great benefits to be derived from exploratory laparotomy in obscure conditions of the abdominal viscera, surely it is our duty to our patients to employ all possible methods of arriving at a correct diagnosis, and to let an ante-mortem rather than "a post-mortem clear up the case."

G. S. KAUMHEIMER, M.D.

MILWAUKEE, WIS., February 25, 1890.

THE CAUSE OF THE JAPANESE STOOP.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of February 8th there occurs an item relative to Dr. Kidera Yasuatsu's conclusion of an inquiry into the cause of the habitual body stoop of the Japanese, which attributes it "to their excessive politeness, the bent posture being considered one of deference." This I think an error. It is due rather to their habitual use from infancy of the elevated wooden sandal, whose stilt-like effect on the body's equilibrium, makes it difficult to maintain a perfect perpendicular, and to their habit when walking of keeping the arms folded, with hands pocketed in opposite sleeves.

Yours, very sincerely,

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4 KING STREET, NEW YORK.

BROMINE IN DIPHTHERIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I do not wish to blight the hopes of the various physicians who have had such successful results from the use of bromine in the treatment of diphtheria, but I do wish to assert that in bromide they have not found that long-looked for specific, and in all probability they will be disappointed in its use for the cure and prevention of this disease. My experience with it in the treatment of my first thirty cases was such that I did not hesitate to call it a specific, and spoke of it as such in our Society meetings. But I was not as successful in my next sixty cases, treated in the same manner, for thirty per cent. of them died. I observed at the same time that the mortality of the cases treated by the other physicians in our county did not vary much from those that came under my observation, although our methods of treatment varied much. I cannot recall a family in which isolation, as far as is practicable, and the generous distribution of the bromine gas prevented the disease from attacking the younger members, although it may have saved many a life by modifying the intensity of the disease. I do not wish to be looked upon as opposed to the use of bromine in diphtheria, for I am not; but I cannot feel justified in depending upon it altogether after my experience with it. As a means of prevention, I would urge that every physician constitute himself a health officer and inspector for every family that retains him. It is his duty to look over their premises at various times, and insist on such changes from a sanitary stand-point as would be conducive to good health.

JAMES H. REILLY, M.D.

RUTLAND, N. Y.

THE MEDICAL CHARITY ABUSE AGAIN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I regret to see that you deem it necessary to speak in an apologetic tone in again advocating "hospital outpatient reform," in your issue of last week. You can do no better work for the medical men of New York than by continuing to agitate this question. Dispensary reports are now being distributed among the charitably inclined, showing "the great increase over last year in the number of patients treated." This competition for numbers is making the private practitioner's lot each year harder. The evils of the present system of treating all comers can only be fought by combination backed by money. Those who suffer most can ill afford to supply the necessary funds, though willing and anxious to do so if they knew just how to proceed. Let some physician who has grown rich in real estate or other speculation, or some wholesale druggist who has retired on the profits of supplying dispensaries with drugs, donate a sufficient sum to carry on a crusade against this ever-increasing evil. The County Medical Society, which has done so much to drive out quacks, and otherwise to incidentally benefit the profession, while conferring good upon the community at large, would probably make the best use of such a fund.

In the rooms of an institution which dispenses bounties at the rate of a dollar a month, and which is situated not a thousand doors from No. 9 West Fifteenth Street, there hang notices to the effect that the physicians are not expected to treat patients who can obtain *adequate* advice outside. I once had investigated a series of patients under treatment here, and found that a large percentage of them were able to pay at least a dollar a visit, say two, three, or four times monthly. The authorities, however, were of the opinion that this amount could not secure the services of "adequate" men—in town. If the managers of this proud charity should investigate, they would find physicians in New York City who are themselves almost objects of charity, while probably possessing the ability to give points on adequacy to many of those composing the staffs of our numerous dispensaries; men who are in need of these one- and two-dollar patients; and men who are entitled to them. Yours, truly,

CHARLES W. ALLEN, M.D.

696 MADISON AVENUE.

THE PHONOGRAPH AND GRADUATION OF SOUND FOR TESTING THE HEARING.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD of March 15th, p. 300, is an article entitled "A New Use for the Phonograph in Medicine." It suggests the use of the instrument and the graduation of sound for testing the hearing. In the light of that article permit me to state that before that date I had constructed and demonstrated to individual members of the profession a scale of sound to be used on the phonograph for such a purpose. I had also arranged to read a paper entitled "The Phonograph as an Acoumetre, with a Demonstration of a Scale for Testing the Hearing," before the Society of the Alumni of Charity Hospital, at its April meeting. In explanation, I would state that the scale consists of a series of sounds produced by a certain metric weight falling various distances and striking a sonorous body. These distances are so graduated

that each sound varies from the succeeding one by one-twentieth of its intensity. We can therefore express a person's hearing as $\frac{3}{20}$ or $\frac{2}{20}$, according to the number of sounds that he can hear. A full description of the scale and the method of its production will be published immediately after the meeting of the above Society. Trusting that I have not taken too much of your valuable space, I remain,

Respectfully,

C. W. Stimson, M.D.

68 West Fortieth Street.

New Instruments.

IMPROVED SPRAY-PRODUCERS.

By J. M. Hays, M.D.,

Oxford, N. C.

The Sass spray apparatus, which is now so extensively employed in the treatment of various diseased conditions of the nose and throat, has, after successive modifications, become almost perfect as regards the purposes for which it is intended. As made at present, however, the spray-producers are open to the objection that it is frequently

impossible by their use to throw the medicated spray well into the vault of the pharynx and posterior nares, particularly if the patient is easily "gagged." In such cases the soft palate is thrown against the posterior wall of the pharynx, and access to the parts above is consequently cut off.

To obviate this difficulty I fitted the "bayonet attachment" to an ordinary bulb atomizer, for use with the Sass condenser, and found that it worked satisfactorily, except that the spray current was not sufficiently under my control, and in several cases where my patients suddenly threw their heads backward the spray flew into their faces before it could be cut off. I found that a strong solution of nitrate of silver was not an acceptable cosmetic. Messrs. Tiemann & Co. have recently made, at my suggestion, a modification of the Sass spray-producers, fully represented by the accompanying cuts, which I am now using daily, and with very great satisfaction to myself and patients.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 9 to March 15, 1890.

Davis, W. B., Captain and Assistant Surgeon. The leave of absence for seven days granted by order No. 9, Fort Preble, Me., March 7, 1890, is hereby extended ten days. Par. 6, S. O. 58, Division of the Atlantic, March 12, 1890.

Ebert, Rudolph G., Captain and Assistant Surgeon, now on sick leave of absence, by direction of the Secretary of War is relieved from his present station, Fort Pembina, N. D., and will report in person to the commanding officer Angel Island, Cal., for duty at that station. Par. 1, S. O. 57, A. G. O., March 10, 1890.

Powell, Junius L., Captain and Assistant Surgeon. By direction of the Secretary of War is relieved from duty at Fort Supply, I. T., to take effect at the expiration of his present leave of absence, and will report in person to the commanding officer at Fort Randall, S. D., for duty at that post, and by letter to the commanding general Department of Dakota. Par. 8, S. O. 56, A. G. O., March 8, 1890.

Morris, Edward R., First Lieutenant and Assistant Surgeon, Fort Shaw, Mont. Granted leave of absence for one month. Par. 1, S. O. 28, Department of Dakota, March 7, 1890.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 15, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	9	5
Scarlet fever	104	20
Cerebro-spinal meningitis	4	5
Measles	169	11
Diphtheria	100	32
Small-pox	0	0
Varicella	5	0
Cholera	0	0

Sea-water and the Nutrition of Marine Animals.—Drs. Pouchet and Chabry have recently conducted some experiments of great biological interest. They have reared larval germs of sea-urchins in artificial sea-water and in sea-water deprived of all or more or less of its lime, in order to observe the influence of the composition of the water on the development of the larvæ. Normally a distinct skeleton should develop. It was found that when the larvæ were reared in sea-water deprived of about nine-tenths of its lime, not even a rudimentary skeleton was developed. A very trifling diminution in the normal amount of lime, effected by careful precipitation by chemical reagents, was found sufficient to interfere markedly with the growth of the skeleton in the larvæ, hence the medium in which some marine germs of life exist would appear to act as a nutritive agent as well as an atmosphere whence oxygen may be obtained for respiration. The influence of the chemical composition of the water in different seas probably determines many differences in the anatomy of marine animals, but Drs. Pouchet and Chabry admit that this question requires much consideration. How far the embryo in the higher terrestrial forms of life may receive nutrition direct from substances in solution in the liquor amnii, as well as through the placental circulation, is another question worth solving.—*British Medical Journal.*

General Medication in the Treatment of Skin Diseases.—General medication is frequently of more importance in the treatment of skin diseases than local measures. An example of this was lately furnished at the college clinic. A little girl was brought with eczematous crust upon the left side of the head, involving the hairy scalp, and of the size of a silver dollar. In addition to this there existed tinea tarsi. The child, aged about eight, was pale, thin, with lymphatic glands, and presented the clinical aspect of scrofula. But little was done in the way of local medication, except the removal of the crust and application of a slightly stimulating ointment. Cod-liver oil, internally, was ordered, and in three weeks the little girl had perceptibly gained flesh, the skin lesion was cured, and she looked lively. A continuance of the oil was ordered, and in the course of time there is no doubt that this patient will grow stout and hearty. In these cases, however, it is absolutely necessary to enforce a long continuance of the internal medication in order to obtain anything like a permanent result.—Dr. A. H. Ohmann-Dumesnil, in the *St. Louis Clinique*, January, 1890.

Medical Record

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Original Articles.

THE ARREST AND PARTIAL RESORPTION OF IMMATURE CATARACT, WITH RESTORATION OF READING-POWER.[1]

BY RICHARD KALISH, A.M., M.D.,

OPHTHALMIC SURGEON TO CHARITY HOSPITAL, NEW YORK.

INSTEAD of premising this paper by an historical sketch, which could only be a review of what has already been published on this subject and is known to you, allow me to state briefly what brought about the investigation of this exceedingly interesting subject. In an old treatise on cataract Majendie is credited with quoting Gondret as stating that, eventually, lenticular opacity will be cured by absorption, and the dangers incident to an operation avoided. Once having noticed this, it surprised me to observe how often its repetition occurred in the writings of that period; but a search of the literature failed to throw any additional light on the subject, or give any clew to a plan of treatment. Reports of cases of so-called "spontaneous absorption of cataract" were examined with the hope that some suggestions might be gained, but without success. Here let me express the opinion that, although I have never seen a case of spontaneous absorption, I feel certain from an examination of the literature that, when it is said to occur it is brought about by the employment of some local domestic remedy, derived probably from the vegetable kingdom. I would therefore ask that this be borne in mind, so that when a case comes under notice a complete, searching, and rigid investigation of the history, habits, mode of life, and the surroundings of the patient be made, and a full and accurate account be taken of everything that has been done for the eyes, even to the minutest detail. When this plan shall have been carried out in a number of cases, I do not doubt but that important information will be gained. After devoting considerable time to research, it seemed to me that the solution of the problem of the cure of cataract *without* operation would depend upon the reply to these two questions:

1. Since non-traumatic cataract depends upon an interference with, or deficient nourishment of, the lens, how can an additional supply of nutrient material be furnished to the intra-ocular structures?

2. How can a remedy possessing solvent or discutient powers be brought into relation with the lens so that it may exert its power and cause absorption or dissipation of the opacity present in the lens?

The first requisite could be gained by any means which would bring about an increased blood-supply to the inner structures of the eyeball, and the most feasible plan seemed to be properly applied manipulation. The second requirement, which may be called the therapeutical element, seemed almost impossible of solution. At this time an article by a Dr. Mercer appeared in the *British Pharmaceutical Journal*, on cineraria maritima, which is no doubt familiar to you all, as it has been republished in almost every medical journal and many of the daily papers as well. I obtained some of the juice, expressed from the fresh leaves, from Venezuela, and gave it a fair trial. It was absolutely without effect in the cases in which it was employed, and as these were private patients and intelligent people, I am positive that the remedy was faithfully tried. The publication of Dr. Mercer's letter was through the agency of the Director of the Royal Gardens at Kew, England, and the Assistant Director, Mr. D. Morris, wrote me that nothing further was known than the original letter; which statement was also made in a letter to me from Mr. J. H. Hart, the Director of the Royal Botanic Gardens at Trinidad, to whom Dr. Mercer had written for a supply of the fresh leaves. I have been unable to find any further account of the use of cineraria, although Dr. Mercer promised to make a supplementary report after further trial of the remedy. To say the least, this silence is certainly ominous. I have devoted this extent of space to cineraria because I receive letters every few days asking if I have used this remedy, and if I would advise its employment. I can only repeat that I have found no benefit to follow its use, and am fully convinced as to its utter inefficiency. The next remedy was pulsatilla, employed in various forms—fresh juice, fluid extract and tincture of the fresh herb, and the oil obtained by maceration of the compressed herb in olive-oil and in sweet oil of almonds. Briefly stated, no benefit was obtained. Electricity in its different forms next claimed my attention. I have been able to slightly improve vision for distant objects in a few cases only, so that the outline of large objects could be discerned, but no improvement in reading-power was acquired, and in the large majority of cases nothing at all was gained. Only the galvanic current seems to have any influence, and if I may be permitted to theorize, I would say in that those cataracts where a direct interference with the function of the fifth nerve can be established, possibly electricity, together with the administration to full physiological effect of strychnia and some form of phosphorus, probably as phosphorated oil, may prove beneficial. Castor-oil, which possesses solvent power in a marked degree and which is easily and largely absorbed, was tried, found ineffectual, and discarded to make place for its derivative, polysolve or solvine. This is intensely irritating to the conjunctiva, and requires so much dilution before it can be employed that only an infinitesimal quantity is contained in the solution, and its use was abandoned. Just about this time I was informed that some in Baltimore and one in Boston were *curing* cataracts without operation. No information could be obtained in reference to what was being done in Baltimore; but I found that the man in Boston had benefited, but NOT cured, several cases, and that his treatment was a profound secret which he positively refused to divulge. I continued my experimentation with other not so well-known remedies, and made a trial of the different methods of manipulation of the eyeball, and evolved a form of manipulation which, together with the instillation of a solution to be described, I have found to produce marked and lasting improvement in near and in distant vision. As a result of this plan of treatment a very brief *résumé* of the first six cases so treated will not, I trust, be out of place.

CASE I.—German, aged seventy. Treated since November, 1888, with above first-mentioned remedies; sight not so good as before treatment. Led to my office, as she cannot see street signs or house numbers. She cannot distinguish vegetables by size or color when marketing. Right eye has light perception only; left eye sees figures at ten feet, but only in some directions. She cannot read any of the letters on the Jaeger test-card. Treatment by conjoined manipulation and instillation begun January 4, 1889. On February 14th she could distinguish, with her

[1] Read before the Section on Ophthalmology and Otology of the New York Academy of Medicine, March 17, 1890.

right eye, the outline of large objects, as houses, and with the left eye read Jaeger No. 14 at eight to ten inches. There was steady improvement up to June, when the treatment was stopped. She was then able to do her housework, marketing, and coarse sewing, as darning, etc. From January until April the treatment was kept up daily, after which she did not attend regularly, as she had a bad attack of Bright's disease.

Case II.—American, aged fifty. Commencing cataract of both eyes. Had keratitis when a child. Some opacities still remain, just above pupillary margin. Uses a convex cylindrical glass. Objects have become so dim that she is about to give up her occupation of teaching music. Vision in the right eye = $\frac{2}{200}$, in the left eye = $\frac{2}{100}$; with her glasses she can see a few letters of Jaeger No. 2 at three to five inches, but her sight becomes blurred almost at once, and the letters become duplicated. No benefit from any change in glasses. Fundus cannot be seen. Treatment by conjoined manipulation and instillation begun February 26, 1889. Marked improvement after two weeks of treatment, and in the latter part of March she resumed charge of her classes. She uses the same spectacles she has had for the past fifteen years. March 1, 1890, declares her sight to be better than in many years, and is again able to sew, which she was forced to give up over two years ago. Reads the daily papers easily.

Case III.—American, aged seventy-five. Was informed by an oculist in February, 1888, that she had commencing cataract of both eyes. In March, 1889, her vision in the right eye was $\frac{2}{100}$, in the left $\frac{2}{100}$, and accepted + 1^{00} D. spherical. With + 6^{00} D. she read with the right eye Jaeger No. 10 at six to fourteen inches, and with the left eye Jaeger No. 9 at six inches, but in both cases with difficulty, and only a few lines. Treatment by conjoined instillation and manipulation from March 1st until June 30th, when treatment was stopped with the sight greatly improved. Four months later, in October, her vision was + $\frac{3}{20}$, in both eyes—it was only $\frac{2}{100}$ when she presented herself for treatment—and with her glasses can read and sew. At the beginning of the treatment there were symptoms of chronic glaucoma, with increased tension amounting to + 1. Under manipulation, as has been noted by Pagenstecher, the tension was reduced and has since remained at about — 1. On March 10th sight was as at the last note, and tension still minus.

Case IV.—American, aged eighty. Cataract, immature, of both eyes. Vision in right eye $\frac{3}{50}$. In the left eye $\frac{2}{200}$, unimproved. She can read Jaeger No. 9 at ten inches with the right eye, and at fourteen inches with the left. Treatment by conjoined instillation and manipulation commenced March 15th, and continued until June 1st. A report from her, about two weeks since, states that she reads her newspaper easily and can do ordinary sewing.

Case V.—English, aged seventy-six. One who has tried cineraria maritima, but without benefit. She can count fingers with each eye at five feet. Impossible to see the fundus. Treatment by conjoined instillation and manipulation commenced on April 17, 1889. May 1st, the vision in the right eye was $\frac{5}{200}$, and she could read Jaeger No. 13 at four inches, but only a few words; with the left eye the vision was $\frac{1.5}{200}$; she could read Jaeger No. 13 at four inches, and the letters were made much clearer by adding + 1^{00} D. cyl. axis 90°. July 1st, vision in the right eye was $\frac{1.2}{100}$, and with + 0^{50} D. spherical = $\frac{2}{200}$; in the left eye $\frac{2}{200}$ with + 1^{00} D. spherical = $\frac{2}{100}$, and she could make out a few letters of Jaeger No. 6. Fundus can now be seen through the thinned parts of the cataract, and the results of a very extensive retinitis, in both eyes, resembling albuminuric retinitis, can be distinctly made out. Examination of the urine is negative. The retina is so badly damaged that sight could not be improved to the reacquisition of reading power, even if all lenticular opacity were removed. March 1, 1890, there has been some gain in distant vision, so that the fear of not seeing approaching horses when crossing the street is overcome.

Case VI.—American, aged nineteen. Zonular cataract of both eyes, thought to have followed an illness when two years of age, which was diagnosticated as meningitis. Left eye was operated upon four year ago—iridectomy—"to either clear it all up, or render the lens entirely opaque, so that it could be extracted." The operation was entirely unsuccessful. Vision in the right eye was — $\frac{2}{50}$, unimproved by glasses. Under cocaine dilatation the clear ring at the periphery of the lens is distinctly seen, and with the ophthalmoscope the existence of hypermetropia determined. She cannot read except by doubling the fist so as to make a canal through the partly closed hand, and looking through this dark passage. Even then the words are all not clearly seen, but are supplied from the context, and words of three or more syllables are "guessed at" from seeing the first three or four letters. Unimproved by any glass. Treatment by conjoined instillation and manipulation commenced on October 4, 1889. On November 20th she read slowly, and without shading her eye, from Jaeger No. 7. There has been a steady improvement, and on February 8th with a + 4^{00} D. spherical she read for an hour from the morning paper, and for the first time in her life threaded a cambric needle. All this is done with the right eye. The left, which had been operated upon, has improved for distant objects so much that she can distinguish by the attire a man from a woman at six to eight feet distant. *In every one of these cases there is a marked thinning of the lenticular opacity, easily discernible by the ophthalmoscope and by oblique illumination.*

My method of conjoined instillation and manipulation consists in the instillation of a mixture of equal parts of glycerine and a one per cent. solution of boric acid in rose-water. If this cause too much irritation, that is, if it last longer than five to twenty seconds, I reduce the proportion of glycerine; whereas if no irritation be caused I increase the glycerine up to double the quantity of the rose-water solution. In only one case was it possible to employ more than three instillations at a single treatment. After the first, each successive instillation, as a rule, causes more smarting. Conjoined with this instillation I employ a form of manipulation, *not message*, conducted as follows. The patient is seated in a chair with a back high enough to support the head; two drops of the solution above mentioned are instilled into each eye, and the operator, standing or sitting behind the patient, places both hands over the closed eyes, so that the tip of each middle finger rests upon the eyeball at its nasal side, the index and ring finger falling into place beside the middle finger. With slight pressure upon the eyeball the three fingers are drawn outward over the eye to the temporal side. This procedure is repeated twenty to thirty times a minute, the stroking being in one direction only, and continued for ten minutes, when a second instillation of two drops into both eyes should be made, manipulation carried on as before for ten minutes, then a third instillation, followed by manipulation for ten minutes. This is not fatiguing to the operator, provided the head of the patient be so placed that the arms of the operator may rest upon the top of the chair. This treatment is to be continued daily for a week, and then the interval between the instillations lengthened to fifteen minutes, making the treatment three-quarters of an hour in duration. After the treatment the sticky solution is wiped from the face by cloths wrung out of hot water, producing the additional effect of cooling the lids by its evaporation. Should the heat of the lids persist, the patient should remain until the lids become cool. Without going into details which cannot be of interest, I can state that I employed manipulation alone, but without improvement. This applies also to instillation of various remedies. Separately each was inefficient, conjoined they were followed by great and lasting benefit. The first noticeable effect is the marked softening of the eyeball. I would here state that in only

one of these six cases did the tension seem normal; in the other cases there was an appreciable hardening not amounting to +1, but still decidedly appreciable, a condition I have found present in by far the larger number of cases subsequently tested, both in private and public practice. In point of fact, I can say that in my experience a cataractous eye with normal or slightly diminished tension is the rare exception.

This is something I do not remember to have seen anywhere stated. On theoretical grounds the reduction of tension caused by this form of manipulation, together with the stimulation which the stroking should bring about, should quicken the circulation and cause an increased blood-supply, thus furnishing additional nutriment to the eye. Incidentally, I would suggest this form of manipulation in the treatment of chronic glaucoma, with the expectation of getting as good a result as was obtained in Case III. above mentioned. For the first few days the patients complain of tenderness of the eyeball, coming on immediately after the treatment and remaining for one or two hours; but after the expiration of about a week this tenderness ceases. There is also considerable conjunctival injection for a varying length of time after each treatment, but neither of these occurrences seems to cause more than a slight and passing discomfort. The treatment should be continued for three or four months. I have treated but a single case for a longer period than four months, and in this case, early in the second week of the fifth month, it seemed to me that the sight was beginning to deteriorate, and as the patient had reacquired the power of reading I concluded to let well enough alone and stopped the treatment. Until further experimentation shall modify my opinion, I would not advise the continuance of this treatment for a longer time than fourteen to seventeen weeks. The eyes should be examined every two weeks and an accurate record of the result, together with a diagram of the lens, should be recorded for purposes of comparison, and in order to know how much improvement is taking place and when the treatment should be stopped. This treatment should not be entrusted to an unskilled person, but should be carried on under the guidance and observation of an oculist; a general practitioner is not competent to oversee it. In one of my cases, after careful instruction the attendant became negligent, varying pressure was exerted, the manipulation done in an irregular manner, and the sight was becoming more indistinct. Under my own manipulation sight gradually improved and reading-power was restored. I now permit nothing to be done except under my personal supervision. This plan of treatment sounds simple enough, and its application no difficult matter; but in the hands of an inexperienced and irresponsible operator cannot but be fraught with great danger to the integrity of the delicately organized visual apparatus. Ill-regulated or too deep pressure is likely to bring on just what we wish to avoid, the ripening of the cataract, even if it stops there and does not seriously damage the eye itself. I would, therefore, give this earnest and timely caution to anyone employing this treatment, to attend to the manipulation personally, or to have it conducted under the watchful eye of an experienced oculist, otherwise certain failure will terminate the effort.

In addition to the above six cases I have treated ten more, but do not report them, because some of them are still under treatment, and others have so recently been treated that I prefer to wait a little longer in order to test their permanency. I can say, however, that these cases seem to have been improved even in a greater degree than those first quoted. A future report will give the results obtained in these cases.

The conclusions arrived at are: 1. Cases of immature uncomplicated cataract can be permanently benefited by my method of conjoined instillation and manipulation. 2. The reading-power can be restored. 3. The treatment must be applied daily, Sundays excepted, for two or three months, and at the first notice of lack of benefit or diminution of sight, treatment must be stopped. 4. The treatment must be under the supervision of an oculist. Finally, the delay in reporting this method of treatment is because I attempted to do what other experimenters aimed at; that is, to bring about the absorption of all of the lenticular opacity, and because I thought that, with new remedies, it might be possible to shorten the time required for this treatment. I have tried a great many remedies, and combinations of remedies, to particularize which would be a waste of time, but have returned to the solution above given as bringing about the best results.

Every patient I have treated has expressed entire satisfaction with the result obtained, declaring the treatment to be a great boon, as it seemed impossible to wait patiently with darkness stealing over the sight, becoming more and more helpless, dependent, perhaps for years, until blindness shut them in. This feeling is graphically expressed by one of my patients, who said: "I am going home now, able to read and sew, and feeling, oh, so many years younger than when I first met you; for I feared that your opinion would be but the reiteration of what I had before been told, and which amounted to this: 'That I must wait until I became blind, then submit to an operation, and if I were one of the fortunate ninety or ninety-two, all would be well;' but the fear that I might be one of the eight or ten failures filled my soul with terror and my heart with anguish. This is past now, and I trust that the horror by day and terror by night which I endured for several months will never again be part of human suffering."

THE TRUE HOMOLOGY OF THE MESAL PORTION OF THE HEMISPHERIC VESICLE IN THE PSAUROPSIDA.

By N. E. BRILL, M.A., M.D.,
NEW YORK.

In no branch of morphology has the damaging influence of starting with higher forms as the type, instead of with the lower, been so banefully practised as in the anatomy of the cerebral vesicle. In the brain of the higher mammalia the preponderance of the cerebrum is so great that the morphological parity or equality of other, and even more primordial, brain segments becomes, superficially speaking, obliterated. This is not the only thing, but those parts of the cerebral vesicles, which most nearly maintain the primitive ideal relations, become crowded out, so to speak, by the luxuriant and redundant development of the gyri of the convexity, and by the subcortical nerve-tracts and centres connected therewith. Furthermore, it so happens that those parts of the cerebrum which comparative anatomy must regard as secondary hypertrophies are of a far higher physiological importance, and consequently of greatest interest to the physician, surgeon, and psychologist.

Among the structures whose physiological rôle is still *sub judice*, and whose relative development is considerably reduced in the higher mammalian brain, is the *cornu Ammonis*, together with its terminal expansion, the *pes hippocampi*. If, in the following comparisons, we were to take the position and the relations of these parts as found in the human brain as objects of comparison with what I regard as their homologues in the reptilian brain, confusion must inevitably result, and for the following reason: The inferior or temporal horn of the lateral ventricle (paracœle of Wilder) in the human brain has attained its position by means of a revolution which results in a complete reversion of the typical position. A marsupial, a rodent, or a bat, furnishes us with a better standard. In these animals it may be seen that the mesal (spurious)[1] edge of the hemisphere is involuted in the characteristic sigmoid curve. If, however, we make transverse sections of the brain of such animals far

[1] Inasmuch as the hemispheric wall is continued by an epithelium, the word edge is to be understood in a qualifying sense, and to refer to the edge of the nervous wall only which here ends.

enough backward, near what is conventionally called the occipital part, this S shape is not so well marked, but becomes represented by an undulating line, as may be seen very well represented by Duval's plates, as well as in the specimens which I have prepared. A marked feature of such sections is the remarkable development of a gray streak, deeply stained, linear on cross-section, and which was resolved by Kupffer into a large number of small, closely crowded, angular nerve-elements; his *stratum corporum nervorum arctorum.*

In all sections of the brain of the highest lizards, such as the iguana and the anolis, in the crocodilia, also in the alligator and in all of the chelonia, if carefully stained by the old carmine method (which was too hastily abandoned for more brilliant but less reliable dyes), not only can this stratum be identified in its primitive and characteristic situation on the mesal wall of the hemisphere, but, in one form at least—the iguana—as in the lower mammalia, it shows undulations which strikingly remind one of the similar undulations in the rodentia. This histological correspondence exceeds the point of analogy, for they are almost identically similar in both cases. The point to which I wish to recur later is, that, relatively speaking, it is the best differentiated cortical area in the iguana's brain.

The view thus far detailed had been announced by Spitzka in "Notes on the Brain of the Iguana."[1] Unfortunately, the observation was published in such an obscure journal that it does not appear to have reached many American, or any European, morphologists. Consequently, one of the most progressive of the latter,[2] struck by the high development of the cortical elements of the area in question, and correctly surmising an analogy with the cornu Ammonis of the mammalia, fell into the error of identifying it with the entire cornu Ammonis. The difference between the older and forgotten interpretation—which, I believe, I can sustain by better specimens and more numerous details than were at the disposal of the former, and the latter, Edinger's view—may be thus epitomized:

1. The subiculum, or S-shaped part of the cornu Ammonis, which is the major part of the cornu Ammonis in higher animals, is composed of cortical elements corresponding to the typical pyramids in shape, and which form a layer directly continuous with the corresponding layer of the gyri of the convexity. The stratum of the closely crowded elements (the *stratum nervorum corporum arctorum*), which is the basis of this discussion, is not continuous therewith, but there is a distinct hiatus or break between the two; this same break is unmistakable in the iguana.

2. The contrast between the closely crowded elements of the iguana and the typical cortical layer separated from it by the above-mentioned break, is of a corresponding character to that which exists between the elements of the subiculum and those of the *fascia dentata* in man.

3. The peculiar undulations of the closely crowded layer found in the caudal part of the hemispherical vesicle, corresponds, first, to those already referred to as pictured by Duval in the rodentia; secondly, to the almost identically similar undulations of the temporal extension and expansion of the *fascia dentata* which follows the anfractuosities of the *pes leonis* (Spitzka), as the *pes hippocampi* ought to be called.[3] So far does this resemblance extend that, just as in the human brain, the anfractuosities are sometimes struck by the knife so as to exhibit a complete circle.

Having thus established by these fundamental requirements, viz., by histological correspondence, by topographical harmony, and by its intrinsic relations as manifested in the break, that the deeply stained streak found to be linear by Edinger, but undulated in the one which I am able to add,[4] is not, as Edinger supposed, the entire cornu Ammonis, but only the homologue of the *fascia dentata*, we are, on looking at it as a whole, struck by the following facts:

1. That the *fascia dentata* is the earliest stratum in the *psauropsida.*

2. That it includes between a third and a half of the cortical superficies as far as the latter is not glued to the striatum.

3. If the above view be accepted as correct, that this is the *fascia dentata*, then nearly the entire remainder of the thin-walled part of the cerebrum must be equivalent to the subiculum of the cornu Ammonis.

4. The entire ammonic structure, if we may thus summarize and designate the above features, extends cephalad so far as to actually merge into the histologically similar cortical layer of the occipital lobe.

To those who are accustomed to associate physiological and structural facts, the reflection will seem very natural that, in a cerebrum of primitive status, the primary relation to the olfactory lobe should be expressed in the single specialization of only one cortical area, which, disputable as its rôle in the higher mammalia may be from a physiological point of view, we know kept step in comparative development with the olfactory lobes. Zuckerkandel, in an able *résumé* of the relations of these two structures, has shown that a most complete parallelism exists between the development of the ring-shaped lobe and the olfactory. In the light of the interpretation which the case of the iguana permits us to make, it becomes indisputably settled that the entire free portion of the cerebral vesicle, in reptiles, is to be regarded as the homologue of the ring-shaped lobe. The component elements of what in higher animals is crowded to the concealed mesal aspect, and, in the highest forms, carried around in embryonic revolution to the extreme temporomesal region, are therefore the only ones fairly represented in the reptilian brain. The area, within which the highest potential of growth is to be sought for, corresponds to the function between the thin-walled and the adherent or striatal part of the cerebral vesicle.

It was the discovery of a commissure uniting the two peculiar elevations of molecular nerve-matter which Edinger, rather conventionally, I apprehend, designates as the fornix, and which is situated at the ventral end of the closely crowded layer, causing a projection laterad into the ventricular lumen, which induced Spitzka to claim for the psauropsida a callosum. A careful study of the uninterrupted series of sections I have obtained is necessary to determine to what part of the mammalian callosum this commissure is really homologous. The assertions of later authors, who have with singular unanimity neglected to acknowledge, perhaps inadvertently, the priority of the above discovery, are not at all clear, nor do they all of them harmonize. This question, as well as the interesting one, which is far from solution by morphologists, as to what the so-called commissure of the fornix really is, I must refrain from pronouncing a final opinion upon. Before leaving this commissure, I wish to call attention to a cavity surrounded by a condensation of nerve-tissue, and situated ventrad to this structure, which seems to have the character of a ventricle, whether spurious or real, I have not as yet determined.

Cerebral anatomy is full of instances of effete and reliquary structures. The highest brain contains within itself tracts and other features which persist, in obedience to the same law which maintains a relic of the chorda dorsalis in the centre of the ligamentum suspensorium

[1] Journal of Nervous and Mental Diseases, 1880, also Science, 1880.
[2] Edinger.
[3] There is no more resemblance of this structure to a hippocampus than it resembles a Cheshire cheese. Thus speaks one of the characters in Albert Smith's novel, "Christopher Tadpole;" and the comparison is certainly an apt one. This expansion, to which the term hippocampus has been applied, resembles in its undulations (usually three) the walking-pads of a carnivore, and especially that of the lion—hence pes leonis.

[4] My series includes, in addition to the iguana, the boa-constrictor, the embryo of the sand-viper, the shelltopuzik, the green turtle, the chelhydra, the nannemys, the anolis, and the alligator. Edinger's list includes the anguis fragilis, European emis, European lizard. Some of the figures given by Osborn, of Princeton College, show confirmatory features in other forms

dentis epistrophii, and a cæcal appendix in the intestinal tract.

When Tarinus, in his "Adversariæ Anatomicæ," settled the position and external shape of that small, dentated, grayish rim which bears his name, could he have dreamed that, from a morphological point of view, it was more venerable than that complicated convoluted expanse which has driven it from its original position, as the earliest differentiated cerebral cortical structure?

RÉSUMÉ OF REPORTS ON THE ETIOLOGY OF INFLUENZA.[1]

By CHARLES N. DOWD, M.D.,

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THE recent advances in methods of study and in our knowledge of the cause of disease have been so great that we turn with much interest to the reports of those who have tried to find the cause of influenza.

There has been so much material to study that many pathologists and bacteriologists have been able to make extended investigations. The solid tissues, the blood, and the various secretions and exudations have been studied; microscopical, culture, and inoculation methods have been used. The results of this labor have been great, although no single cause for the disease has been given and accepted.

I wish to present a short *résumé* of the main results so far reported, and to record the negative results of some very limited observations by myself.

Examinations of Blood.—Many observers have studied the blood of influenza patients. Klebs[2] found in fresh blood from the finger-tips masses of small, actively moving bodies, of high refractive power; these bodies are similar to those which he has seen in the blood of pernicious anæmia patients. In fluid blood taken from the heart of an influenza patient two hours after death he found oval monads 2 to 4.5 μ in length and 1 to 3 μ in breadth, the smallest forms showing quivering movements and locomotion, the larger showing light peristaltic contractions. They were stained with a five per cent. solution of methylene blue in physiological salt solution, and as the movements ceased flagellæ were evident. Most of these bodies were within the red corpuscles, often two to five in a single corpuscle.

Kollmann[3] reports having found in fresh unstained blood from the finger-tips actively moving bodies—oval, round, or rod-shaped—the larger rod-like forms occasionally showing protuberances on the ends, and so approaching dumb-bell forms. Occasionally the bodies were joined together like diplococci. A few were so small that their form could not be well made out. He does not consider these bodies to be necessarily abnormal, as he has seen similar ones in the blood of healthy persons; he thinks they correspond closely to the monads described by Klebs. He did not find the flagellate forms in the corpuscles.

Further reports on the blood are given. Klebs[2] reports plate-cultures from the blood of two patients who died from influenza. There were no bacterial growths. Weichselbaum[4] examined the blood of two influenza patients; it was taken by venesection and examined microscopically; agar plates were also made. The result was negative.

Finkler[5] aspirated blood from the spleen and found streptococci, but no other bacteria after culture.

Vaillard and Vincint[6] found streptococcus pyogenes in the blood.

Sée and Bordas[7] report negative blood examinations.

Laveran[8] reports negative blood examinations.

The writer examined blood from the finger-tips of ten influenza patients; the specimens were dried in thin layers on cover-glasses and were stained with methylene blue as in the examination for plasmodium malariæ. The results were entirely negative, nothing abnormal was found. Nine of the patients had mild symptoms, their blood was taken on the third to sixth day of the disease—usually on the third day. The tenth was confined to bed with severe constitutional symptoms, his blood was taken on the second day. I also planted the blood of two of the patients on agar plates, and kept them at the body temperature. There were no growths.

The results of these blood examinations are only suggestive. Klebs' reports have not yet been confirmed. Kollmann does not believe that the organisms which he found were pathological. The other observers found bacteria which exist in other parts of the body, or they found nothing.

Bacterial Studies of Secretions, Exudations, and Viscera.—Many bacterial studies have been made from the lungs and other viscera, from the sputum, tracheal and nasal mucus, pleuritic exudations, etc. These studies have resulted in the announcement of various bacteria as the prevailing types, different observers giving different results.

The diplococcus pneumoniæ of Fraenkel-Weichselbaum and streptococcus pyogenes were the most common forms.

In the following reports *diplococci* were the prevailing bacteria.

Prudden[9] studied six cases of pneumonia complicating influenza. In one, which was fatal, he examined the lungs, in the other five he examined the sputum. In the lung he found a pure culture of diplococcus pneumoniæ in enormous numbers. In the sputum of four cases he found diplococcus pneumoniæ in enormous numbers and many staphylococcus pyogenes aureus; in one of them there was also streptococcus pyogenes.

In the fifth sputum specimen there were very large numbers of streptococcus pyogenes and staphylococcus pyogenes aureus. There were scattering forms in all the sputum specimens.

Thus in five out of six cases of pneumonia the diplococcus pneumoniæ was the prevailing bacterium; in all cases it was identified by animal inoculation and by culture on agar plates.

Weichselbaum[4] examined the sputum of 18 patients; 15 of them simple uncomplicated influenza; 1 with a complicating broncho-pneumonia; 2 had a croupous pneumonia later. The sputum was collected on the second day after admission to the hospital. In all cases there were many bacteria, these were almost exclusively diplococci, which were nearly identical with diplococcus pneumoniæ, but showed less virulence on animal inoculation.

Only twice did he find streptococcus pyogenes and twice staphylococcus pyogenes aureus associated with them. He also found this diplococcus in the urine. In ten autopsies on cases of simple influenza, and influenza with complications, he found inflammation in the frontal sinuses and antra of Highmore nearly constant; in the most severe cases they were filled with pus. In this pus microscopical examination and culture both showed diplococcus pneumoniæ, which was especially virulent on inoculation. Once he found streptococcus pyogenes and once staphylococcus pyogenes aureus associated with the diplococcus. In three cases of otitis media and seven cases of croupous pneumonia he found diplococcus

[1] Read before the New York Pathological Society, February 26, 1890. Reports received since that time have been added.

[2] Klebs, E.: Centralblatt für Bakteriologie und Parasitenkunde, January 24, 1890.

[3] Kollmann, A.: Berliner klin. Wochenschrift, February 17, 1890.

[4] Weichselbaum: K. k. Gesellschaft der Aertze zu Wien, January 31, 1890; reviewed in Deutsche Med. Wochenschrift, February 13, 1890.

[5] Finkler: Deutsche Med. Wochenschrift, January 30, 1890.

[6] Vaillard and Vincint: Bulletin Médical, January 25, 1890; reviewed in Münch. Med. Wochenschrift, January 28, 1890.

[7] Sée and Bordas: La Médecine Moderne, No. 6; reviewed in Münch. Med. Wochenschrift, February 4, 1890.

[8] Laveran: Le Bulletin Médical, No. 8; reviewed in Deutsche Med. Wochenschrift; also Berliner Med. Wochenschrift, February 6, 1890, and February 17, 1890.

[9] Prudden: MEDICAL RECORD, February 15, 1890.

pneumoniæ; also in the pus from a leptomeningitis and abscess of the brain, and once in the intestinal contents

Levy [10] studied 18 cases with the following results:

Exudation in otitis media (usually purulent).... 7 cases.
Result: Diplococcus pneumoniæ of Fraenkel-Weichselbaum (pure culture), 6 cases.
Diplococcus pneumoniæ and staphylococcus pyogenes albus, 1 case.
There had been a discharge from the ear in the last case for several days.

Pus from chest in empyema..... 5 cases.
Result: Diplococcus pneumoniæ (pure culture) in every case.

Sero-purulent pleuritic exudation..... 1 case.
Result: Diplococcus pneumoniæ (pure culture).

Serous pleuritic exudation..... 3 cases.
Result: Diplococcus pneumoniæ (pure culture), 1 case.
Diplococcus pneumoniæ and staphylococcus pyogenes albus, 1 case.
Staphylococcus pyogenes albus pure culture, 1 case.

Material aspirated from lung in broncho-pneumoniæ. Number of cases not stated.
Result: Diplococcus pneumoniæ..... 1 case.

Lung and pleuritic exudation lobular pneumoniæ (autopsy)..... 1 case.
Result: Diplococcus pneumoniæ.

Thus in the 18 cases examined diplococcus pneumoniæ of Fraenkel-Weichselbaum was the predominant form 17 times, and staphylococcus pyogenes albus was the predominant form 1 time.

Jolles [11] reports from the sputum and urine of influenza patients in Vienna a diplococcus very similar to diplococcus pneumoniæ.

Sée and Bordas [7] examined cases of fibrinous pneumonia after influenza, number not stated in review; in all cases they found a lancet-formed diplococcus.

In these five series of observations, Prudden, Weichselbaum, and Levy announced definitely that the diplococcus pneumoniæ of Fraenkel-Weichselbaum was the form found; as to the other two, we are left somewhat in doubt.

The following reports have been made where streptococcus pyogenes was the prevailing form:

Ribbert [12] made bacterial examinations from seven fatal cases of influenza; five with pneumonia, two without it. In five cases streptococcus pyogenes was the only characteristic micro-organism. Staphylococcus pyogenes aureus was occasionally associated in moderate numbers. In one of the non-pneumonic cases he found a pure culture of streptococcus pyogenes in great numbers; in the tracheal mucus he found it associated with staphylococcus and other bacteria. A similar condition was found in one of the pneumonic cases. He examined three spleens and three kidneys, the results were negative, excepting in one spleen where he found streptococcus. In the sputum he regularly found numerous streptococci. In two of the pneumonic cases he found no micro-organisms. The pneumonococcus was not found in any case.

Finkler [6] made bacterial examinations in influenza pneumonia cases as follows: Lung, spleen, and other parts of body, *post mortem*, two cases; lung by aspiration, six cases; sputum, twelve cases; pus from otitis media complicating pneumonia, two cases.

Results.—In all pneumonic lungs streptococcus pyogenes. In one pneumonic lung a staphylococcus and a diplococcus which differed essentially from the diplococcus pneumoniæ (Fraenkel's). In two pneumonic lungs a large bacillus (not Friedlander's bacillus pneumoniæ). In the sputum he found the streptococci in all cases but two. Generally staphylococcus aureus or albus were associated, bacilli a few times; diplococci twice. In pus of otitis media, one case, a pure culture streptococcus pyogenes; one case streptococcus pyogenes and staphylococcus pyogenes albus. He also reports having found the same streptococcus in cases of bronchitis with influenza, and in the pericardium and the spleen.

Vaillard and Vincint,[9] Hôpital de Grâce, Paris, found streptococcus pyogenes in all examined cases in the blood, spleen, lungs, and pleuritic exudation; in three cases it was in pure culture; once staphylococcus pyogenes was associated; they also found streptococcus in the sputum.

Prudden [8] examined the sputum of three cases of bronchitis complicating influenza. In two there were large numbers of streptococcus pyogenes, in the third there were large numbers of diplococcus pneumoniæ, in all there were a few scattering forms.

Laveran [8] found in sputum of many cases streptococcus pyogenes very abundant.

Du Casal [13] found it constant in the sputum of fourteen cases of influenza.

We thus find six series of observations in which streptococcus pyogenes was the predominant form.

Babes,[14] in Bucharest, examined the nasal secretion, and sometimes the sputum, of nine influenza patients. He made numerous agar plates and animal inoculations, and separated the different species of bacteria with much care. In five of the cases the predominant form was a bacillus which he designates Bacterium II.; another form, which he calls Bacterium I., was found in four cases, often associated with Bacterium II. These forms he announces as new ones, and suggests that they may be a pathological element in the disease. He also found numerous other forms; he only found streptococcus pyogenes in one primary case of influenza. In secretions of patients suffering from the sequelæ of influenza he found many forms of bacteria, but announces none as predominant.

Bouchard [15] found in secondary affections three different forms—staphylococcus pyogenes aureus, pneumonococcus, and streptococcus pyogenes.

Conclusions.—If we review these results we find that in three series of observations, embracing about thirty cases, diplococcus pneumoniæ of Fraenkel-Weichselbaum was the predominant form; in six series, embracing sixty or more cases, streptococcus pyogenes was the predominant form; in four series the reports leave us somewhat in doubt about the predominant form. Both the diplococcus pneumoniæ and streptococcus pyogenes were found in the lungs, sputum, and other secretions, and in various exudations, and each was many times found in pure culture, *e.g.*, in the pus in otitis media Finkler finds pure growths of one, and Levy finds pure growths of the other. Both of these forms are found in the mouth and air-passages in health, or conditions of slight disease, and they seem ready to set up their action when inflammation provides a suitable medium for growth. The general belief is that they have not been the cause of the influenza, but that they have developed as the influenza has provided them with a suitable condition for growth, and that their development may have caused some of the complications.

Economy Down East.—A woman in Saco recovered too rapidly, and had half a bottle of medicine left of the prescription ordered by the attending physician. Having been brought up to believe that wastefulness was a sin, and the druggist refusing to refund anything on the offer to return the half bottle, she gave it to her pet dog who seemed to be ill. The dog died.

[10] Levy, E.: Berliner klin. Wochenschrift, February 17, 1890.
[11] Jolles: Wiener Med. Blätter, No. 4; reviewed in Münch. Med. Wochenschrift, January 28, 1890.
[12] Ribbert: Deutsche Med. Wochenschrift, January 23, 1890.
[13] Du Casal: Le Bulletin Medical, No. 8; reviewed in Deutsche Med. Wochenschrift, February 6, 1890; also Berliner Med. Wochenschrift, February 17, 1890.
[14] Babes, V.: Centralblatt für Bakteriologie und Parasitenkunde, February 17, 1890.
[15] Bouchard (Sém. Méd., No. 5; reviewed in Münch. Med. Wochenschrift, February 4, 1890; also, Berliner Med. Wochenschrift, February 17, 1890.

THE THERAPEUTICS OF CARDIAC DISEASE.[1]

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When we speak of the therapeutics of cardiac disease, what is it that we mean? To what are our remedies addressed? What are the conditions that pathology has unfolded that are amenable to treatment?

We are concerned with the heart both in its anatomical, as well as in its physiological aspect. Next to its position and size comes the consideration of the heart-muscle; of this muscle as a vast mass making up the ventricular and auricular walls, acting through columnæ carnæ and papillæ upon tendons which control the action of valves; with these valves themselves; with the endothelial layer, the nerve distribution of the organ, its own blood-vessels, and, finally, with its relation to the circulation and circulatory fluid and some of the more important viscera, as the lungs and kidneys.

Careful examination reveals to us what changes have taken place, and clearly and sharply must we decide which are the pathological conditions to which remedial agents shall be applied; which factors first demand, and for how long, our attention; when shall consideration be given to others, and, finally, when shall we cease in our attempt to influence the heart itself, having attained the limit of scientific therapeusis.

While it is not within the province of this paper to wander strictly from the realm of therapeutics, still. I think it not amiss to group together, so as to have before us, what are now considered the important lesions of cardiac disease, and for some of which treatment may be attempted.

At the outset I would urge attention to the probable congenital condition of the heart and arteries. Abnormally small hearts, associated with imperfectly developed aorta and blood-vessels, are by no means a rare congenital condition. Similarly other and less frequently occurring congenital abnormalities are met with. In most instances, however, we meet with acquired disease. Thus we are called upon to treat either disorders of the heart-muscle, or else these associated with valvular lesions or lesions of the orifices; or with atheromatous and sclerosed arteries of the heart or of the aorta, or of the entire arterial system. Still further, with the latter combination, in which the arterial involvement is the result of extraneous local causes, as tumors pressing upon them, or constitutional degenerative changes proceeding from other viscera, as disease of the lungs or renal system. Finally, we meet the category in which the nervous control or distribution of the heart is at fault, in which the heart-muscle may remain normal, or be itself ultimately secondarily changed, hypertrophy, dilatation, and degeneration supervening sooner or later. Such are the cases of tachycardia, abnormally slow heart, intermittent and arrested heart-beat, and some of the obscure cases known as angina pectoris.

The condition of the blood has an important bearing upon the condition and progress of many cases of chronic heart disease, and the consideration of the two conditions—plethora and hydræmia—in connection with a given case, frequently furnish important data for treatment. Bollinger has well established the fact that a condition of plethora alone, maintained for some time (as is evidenced in persons, as beer drinkers, who over-eat and over-drink, and exercise comparatively little, who in consequence have a pulse of high tension), leads to hyperæmia and hypertrophy, and ultimately to dilatation and insufficiency of the cardiac muscle.

Similarly hydræmia, with its increased quantity and its involved impoverished albuminoid condition of the blood, results in degenerative changes similar to those ultimately produced by plethora.

[1] Read before the New York Academy of Medicine, February 20, 1890.

To make a brief *résumé*, then, of the various cardiac conditions we are called upon to treat, would give us:

a. Hypertrophy, concentric or eccentric, alone or in combination with dilatation.

Dilatation alone or combined with hypertrophy.

b. Hypertrophy and dilatation, or combined; together
1, with mitral disease (stenosis or insufficiency);
2, with aortic disease (stenosis or insufficiency);
3, with mitral and aortic disease in their various combinations;
4. with disease of the pulmonary artery, or else this with
a, mitral disease (stenosis and insufficiency);
b, aortic disease (stenosis and insufficiency).

If we group our cases upon an etiological basis, we have hypertrophy and dilatation, either or both, or combined with valvular disease, the result of

a, Congenital causes;
b, work or excess;
c, fright and hysteria, and other nervous causes;
d, indigestion, mal-assimilation, etc.;
e, inflammation (causes producing endo- and pericarditis, myocarditis, and interstitial myocarditis);
f, degeneration;
1, Fatty infiltration;
2, fatty, granular, waxy degeneration;
g, either inflammation or degeneration, the result of infectious diseases;
h, either sclerosed coronary arteries (thrombosis and embolism, chronic fibroid degeneration of heart-muscle, or both of these combined);
i, either obstructed circulation, and acting secondarily through changed blood state (tumors and aneurisms pressing or interfering, pulmonary diseases, as emphysema, etc., renal disease).

Contracting our eumeration of all cases still more, we have hypertrophy and dilatation, either or both, or combined with valvular disease and associated with—*a*, plethora; or, *b*, hydræmia.

It is the natural tendency of a viscus to seek to restore itself to a normal state or to adapt itself to new conditions and surroundings. Nowhere is this better illustrated than in the heart-muscle, which by a system of compensatory hypertrophy seeks to resume its normal vigor and functions.

As long as this holds good, irrespective of the nature of the lesion, little or no treatment is required at our hands. In all cases it is the insufficiency of the cardiac muscle and the resulting lack of presentation, whether evidenced by dilatation of the heart-wall, by intermittent or irregular action, or by weakened cardiac impulse, which furnish the keynote for treatment. Similarly, whatever we may be enabled to do in advance to prevent this latter change is a proper object of therapeutic endeavor.

In the attempt to tabulate all our means of combating cardiac disease, their arrangement under the headings of hygienic, dietetic, remedial, and mechanical agents, is sufficiently broad as to include all.

Some act temporarily, some permanently, some locally, others constitutionally. While a few act directly upon the heart-muscle, most act indirectly by changing blood states, or restoring altered nervous tone. Finally, it must be confessed that some act in a manner whose *rationale* is not entirely clear or satisfactory, but whose results force us to adopt the measure; while, conversely, we must deplore our failure to influence some conditions of the heart despite all our methods and multiple resources. In speaking of the treatment of cardiac disease, I need not refer to that general treatment which any case, whether of cardiac origin or not, may require, for the more perfect is the general health, the better does each individual organ perform its function. Here, as in other diseases, specific treatment directed to the heart itself may fail, when general supporting treatment will accomplish the result.

Under remedial agents we have, as most important, digitalis, strophanthus, convallaria, sparteine, and adonidin;

veratrum and aconite; ergotin and strychnia; the general tonic remedies, cod-liver oil, iron, cinchona, and the like; bromides, belladonna, hyoscyamus and its congeners; iodides; galvanization.

As temporary agents only, we have alcohol, caffein, and thein; ether, chloroform, ammonia, camphor, and musk; nitro-glycerine, nitrite of amyl, opium, counter-irritation, faradization, zinc, arsenic, phosphorus, barium salts, venesection.

The Dietetic treatment includes the regulation of the relative solid and liquid foods, and the absolute control, as to the character and quantity, of both, depending upon indications of the cardiac condition and the blood state.

The Mechanical includes massage and exercise, by walking, by climbing, by medical gymnastics, active or passive movements, or else a combination of these, and, finally,

Medicinal Baths.—These latter may likewise be aided by some form of exercise or massage.

Hygienic Remedies.—The limit of time for the evening forbids any very detailed consideration. The effect of unhealthful trades and atmospheric surroundings must be guarded against, as is forcibly illustrated in the tobacco manufacture, and in others to a less degree. Tobacco and alcohol both give rise to cardiac disturbance, and may lead directly to cardiac overaction and hypertrophy.

Dietary Treatment.—We are so long accustomed to associate certain diatheses as tending to predispose to cardiac disease, that it is a matter for surprise that the dietetic treatment has been, until recently, although spoken of in books to a slight extent, carried out in practice even less. It is not uncommon [1] to meet with cases of cardiac irregularity and more or less dilatation in which the sole cause seems to have been an insufficient and improper diet, associated with bad hygiene and overwork.

The quantity and quality of the food is, therefore, the first consideration. This will give us a circulating fluid which leaves the heart unembarrassed, and does not tend to fatty deposit, to the gouty and other diatheses.

The indiscriminate use of water during meals embarrasses digestion, and may, in cases of fatty heart, after a hearty meal, if exercise be attempted immediately, give rise to heart failure.

Oertel's indications for the dietetic treatment are clear and explicit, and are briefly summarized in the following:

1. In cases of chronic heart disease, in emaciated or slightly built persons associated with anæmia and hydræmia, and with insufficiency of cardiac muscle:

Increase the quantity of albuminoid foods, the object being to increase the muscle element, not only up to the normal state, but even to a condition of hypertrophy and hyperplasia.

Rest and fat formation on the one hand, exercise and blood and muscle formation on the other, are the things to be sought after.

2. *a*. In cases of abnormal adipose tissue with plethora, and commencing insufficiency of cardiac muscle:
   1. Increase the amount of albuminoid food.
   2. Diminish the amount of fat-making substances.
   3. No change in liquids other than is physiological.

   b. In cases of abnormal adipose tissue with hydræmia and insufficient cardiac muscle:
   1. Increase the amount of albuminoid food.
   2. Diminish the fat-making substances.
   3. Diminish the quantity of fluids.

   c. In cases of adipose deposit in old persons, with hydræmia and commencing insufficiency of cardiac muscle:
   1. Increase the albuminoids.
   2. At the outset continue the fats and carbohydrates, yes, even increase them for a time, in order to prevent the too rapid diminution of fats when this begins to take place, an occurrence characteristic of old persons when their dietary is in any way interfered with.
   3. Diminish and regulate the fluids.

As regards the relative amount of foods indicated for the adipose cases, Oertel gives:

	Albuminoids. Gm.	Fat. Gm.	Carbohyd. Gm.	Fat equiv. Gm.
Maximum	170	43	114	173
Minimum	156	22	71	127

Ebstein gives, in his treatment of the fatty diathesis:

	Albuminoids. Gm.	Fat. Gm.	Carbohyd. Gm.	Fat equiv. Gm.
Daily average	102	85	47	154

In the cases of adipose deposit more particularly associated with hydræmia, and in older persons, food must be given in small doses and often, and fluids must not be given with solid food.

By abstaining from fluids fat absorption is promoted.

Finally, when fat disappears new formation of blood and muscular tissue is called for in the body, and the fat is replaced by muscular tissue.

In these cases exercise is used not to increase the amount of albuminoid deposit so much, as to assist in the elimination of fat. This overfeeding continues only up to a certain limit with marked increase of blood and muscle formation; when, however, fat is deposited in large amounts in the body, the quantity of blood diminishes and anæmia supervenes.

That these rules cannot fix absolute limits will, I think, be readily appreciated; each case must be treated with some regard to the idiosyncrasies and peculiarities of the individual or the heart itself. Of course it is apparent to all that the promise of success from the dietetic method depends upon so many factors that disappointment is not infrequent. It is so difficult to retain the unwavering support of the patient, that herein is the element of greatest uncertainty.

Remedial Agents.—It is worthy of note, in using the cardiac stimulants, that the combination of several of them will often give better results than the use of either of them alone. Still further, by the combination unpleasant effects are often avoided.

Thus strophanthus and convallaria give better results combined. My own experience has led me to prefer tincture of strophanthus to the alkaloid strophantin.

When digitalis is combined with strophanthus, using the former in small doses, we obtain all the good results of each drug without the cumulative effect of digitalis.

Calomel at times increases the efficacy of digitalis, whether by relieving the congestion of the intestinal tract and improving the hepatic circulation is a matter of conjecture. In using temporary cardiac stimulants, the previous habitual use of tea or coffee or alcohol gives us an indication or contra-indication for the use of thein, or caffein salts, or the natural beverages. The habitual use of large quantities of coffee by the Germans has led Furbringer to adopt the use of tea or thein in his ward as a cardiac stimulant, and with markedly good results, whereas caffein had previously proven abortive. Musk, so long recommended, is looked upon with scepticism, and unjustly so; too small doses account for its inefficacy. Recent experience has taught me that by addressing myself to the drugs which act upon unstriped muscular fibre I have succeeded in decidedly improving the tone of the heart-fibre; thus, by the administration of full doses of strychnia and ergotin I have, in many cases, after previously regulating the heart's action, strengthened it beyond expectation.

In these cases nux vomica or strychnia were used in full physiological doses. I do not doubt but the combination of digitalis and quinia, long a favorite one, proves

[1] Both in the Polyclinic and at the Mount Sinai Hospital quite a number of Russian emigrants, after two or three years of labor of twelve to sixteen and eighteen hours daily, fed upon bad diet and in poor surroundings, have been met with suffering in this way.

beneficial, not only through the tonic action of the cinchona, but also in part by reason of its effect upon muscular fibre.

The subject of counter-irritation deserves a passing allusion. The cautery (either the heated glass rod, the Paquelin or galvano-cautery) applied superficially in vertical lines over the hepatic or præcordial region is a decided means of temporarily regulating the heart's action. In simple irritable heart, from reflex causes, this may be repeated with good results.

In speaking of the treatment of cardiac disease, I need not refer to that general treatment which any case, whether of cardiac origin or not, may require, for the more perfect the general health, the better does each individual organ perform its function. Here, as in other diseases, specific treatment directed to the heart itself may fail when general supporting treatment will succeed.

Historically we find Albertius and Valsalva firm in the belief that the condition of hypertrophy and dilatation in cases of chronic heart disease could be ameliorated.

Rest in bed, blood-letting, a limited diet, and an allowance of bouillon were the main features of their treatment. Laennec suggested similar regimen.

Later we find other authorities suggesting further changes. Blood-letting in all stages, save in the latest, continued to be recommended, and now rest in bed was replaced by consent to be up and about in an equable temperature. The diet was to be a moderate vegetable diet, with moderate use of beef and milk, and simple drinks in small quantities.

Wunderlich, besides seeking to prevent further changes in the heart by symptomatic treatment, sought to establish a definite relation between the capacity of the heart and the quantity of blood to be acted upon by it. Again blood-letting was recommended as a ready means to adapt the heart to the task of the quantity of work to be done, otherwise his suggestions coincided with those above given.

Stokes led in the new departure, in recommending gradual and increased exertion and exercise for cases of fatty heart, suggesting moderate mountain-climbing in Switzerland and England. Only in very old persons, with complications, was caution in adopting this recommended; in young persons it was urged. He also suggested meat diet, and abstinence in these cases from fatty foods, soups, and vegetables. Moderate indulgence in water, with wine or whiskey, unless in advanced stages, was suggested.

Unfortunately these valuable suggestions were soon lost sight of and received no recognition.

Later, Bamberger referred to the fact that exercise had been recommended for fatty heart. It is to Oertel, however, that we are particularly indebted for the more perfect development of both the mechanical as well as dietetic plans, placing these both upon a scientific basis, and by his results inducing others to follow his example, and achieve his brilliant results.

Mechanical Method.—It is a well-known fact that proper exercise of a muscle leads to its hypertrophy, even muscular fibre which has in part undergone fatty degeneration may become changed in character and the muscle assume a normal healthy aspect. Still further, in cases where advanced degeneration has taken place, some of the healthy fibres remaining may ultimately hypertrophy, and by predominating over the degenerated fibre restore action to a formerly partially useless muscle. And even more than this, the restored tissue, by subsequent cell-growth and reproduction, furnishes new fibre, and in this manner fatty degeneration, fatty infiltration, and even interstitial degenerative changes, lose their influence, and a return to a normal, or nearly normal, function is brought about.

That these changes take place in the heart-muscle is clinically demonstrable. We have all repeatedly witnessed the more or less complete compensation in the heart, as evidenced in the disappearance of the signs and symptoms of a passive and active congestion, and in an improved heart-action itself, showing that the weakened or insufficient heart-muscle had been more or less restored.

Exercise increases the functional activity of the heart, causes an increased flow of blood to it, and improves its nutrition. When the heart is weakened by any cause, this effect becomes apparent upon the slightest muscular contraction; and when the entire body is put in regular motion, as may be done by regular walking, climbing, or gymnastics, the heart tends to beat more regularly and more frequently, the contractions of the muscles send the venous blood to the heart in greater quantity, the arteries become dilated and filled, the capillaries widen, a freer circulation is established, the pulse is increased in frequency, and the intra-arterial pressure is permanently increased—the increase during and immediately after exercise being very great, gradually diminishing after the period of rest, but remaining for eight or ten hours, sometimes even twelve and twenty hours. That a general influence for good results from the general assimilative molecular changes which exercise, however moderate, favors, is evidenced from the increased flow of urine and excretion of urea. Indeed in cases of general anasarca Oertel has formulated the rule, that "if the urine contain large quantities of albumin, and the difference between fluids absorbed and excreted is more than fifty per cent., and by diminishing the fluids absorbed no improvement in the percentage excreted is gained, in such cases mechanical treatment is decidedly contra-indicated." Returning to what we have just previously alluded, it is a matter of great interest to compare the sphygmographic tracing before and after the mechanical treatment—and likewise to note the increase by the sphygmanometer of the intra-arterial pressure.

In the sphygmographic trace we note, after exercise, that the line of descent almost equals that of ascent, the recoil rise being only a fraction of that prior to the exertion. The sphygmanometer teaches us that the increase may be ordinarily as much after a fair amount of exercise as 18 to 20 mm. of Hg., this gradually diminishing to from 1 to 3 at a varying period of from eight to eighteen hours later.

Oertel claims that a well-regulated mountain climb, of very gradual ascent is the best means of applying exercise in cases of heart disease, amenable to mechanical treatment. Selecting the mountain-sides in the health-resorts of Germany and Switzerland, he has carefully fixed the limits of the exertion to which the individual is subjected to, by varying the length, duration, and steepness of the climb. It is not a climb at random anywhere and under any circumstances, but one under careful regulation, the amount of effort required and its results being carefully calculated in advance.

As it may not be a familiar fact to all, that a diseased heart, so long as its compensation remains unimpaired, will permit of indulgence in enormous physical strain without injury in many cases, the following examples will not be without interest. A case has recently come under my observation, of a lad, nineteen years old, who presented himself at the New York Polyclinic, complaining only of dyspeptic symptoms and of palpitation, who had in early youth suffered from rheumatism. Examination revealed the lesions of aortic stenosis and insufficiency, the latter a little more marked; dilatation, with well recognizable compensatory hypertrophy, was discernible, the heart beating regularly, and there being no evidence of heart-weakness or even of ill-health. Upon investigation I ascertained that for years the lad had been a member of a German turnverein, and had twice or thrice, weekly, spent several hours hard at work in the gymnasium. In this case he had labored under the control of a competent and careful inspector, with benefit to his heart. I well recall the case of a 'longshoreman, who died at the age of sixty-nine, at Roosevelt Hospital, and who from his clearly related history had carried a mitral lesion for fifty-two years.

If under favorable circumstances, then, a markedly diseased heart can bear so great a strain because this has to some extent been carefully regulated, it is not too much to presume that, knowing the good effects of exercise, if our cases are properly selected, some diseased hearts with insufficient muscle may, by some form of judiciously regulated exercise, be more or less improved. And more particularly when we remember that it is less through the direct effect upon the heart, but rather through the improvement obtained in the circulation and circulatory fluid, that our result is obtained.

A priori, stenosis of the mitral orifice is a contraindication to the mechanical treatment of cardiac disease, rather than regurgitation. The means by which the mechanical method acts aid the condition and tendency of the heart-muscle in the latter class of cases and retard it in the former.

In mitral stenosis the circulation is certain to be interfered with, irrespective of the condition of the cardiac muscle. In this condition the circulation feels the effect of the retardation most promptly, extending beyond the pulmonary circulation to the venous system; and the auricle compensates slowly, and only after some time. To introduce the mechanical treatment here would only increase the hindrance to the venous circulation, for the more quickly you seek to drive a fluid past an obstruction the more the obstruction becomes felt. Stenosis of the aorta, on the contrary, is soon followed by compensatory hypertrophy of the left ventricle, and here the mechanical method finds an application.

In insufficiency of the valves, more particularly of the left side of the heart, we have a class of cases in which nature soon follows the lesion, by a compensation in the heart-muscle itself; and because the mechanical method acts by assisting in maintaining, in restoring, or in increasing this compensation, we have in this a mode of treatment which completes what nature, if left to herself, only partially effects in many instances.

How long mechanical treatment should be continued in these cases is a very serious question. In addition to dietetic and other measures, these cases, even when the heart is acting well, should remain more or less constantly under observation; for, although compensation may be obtained, yet it is a matter of great uncertainty how long it can be maintained. It is therefore advisable either to continue the treatment in a moderate manner, or to replace more inconvenient methods by more convenient, or comfortable, or less severe ones, omitting the method entirely whenever a premonition of failing compensation is recognizable, either in the general circulation or in the heart, particularly on the right side.

In cases in which insufficiency and stenosis are combined the question of the utility of the mechanical method will depend upon the fact whether the stenosis or the insufficiency predominates, and, still more, whether the stenosis be that of the mitral orifice, in which the compensation of the auricular wall is at best unsatisfactory and uncertain. Still, if by first resorting to palliative means we can improve or control the latter, then this may be employed with subsequent benefit.

Finally, in cases of fatty degeneration or fatty infiltration, whether associated with plethora or hydræmia, the mechanical method, carefully applied, associated with dietetic means, is a powerful restorative of lost compensation. Frequently only after a persistent combination of the mechanical and dietetic treatment, by which means the nature of the heart-muscle is more or less changed, do we find that drugs will exert any influence whatever.

By exercise and diet the increased blood-supply to the heart, the dilatation of the capillaries and arteries—which involves, of course, the coronary branches as well—permits increase of nourishment to the muscular tissue, by which the above result is obtained.

As to the modes in which the mechanical method may be applied each has its votaries, who in their preference are guided largely by surroundings and ultimately by their success under these circumstances.

While Oertel's method adopts the walk, or climb, or the combination of both—so that at the health-resorts your eye meets the familiar sign on the hill-side, this is "the beginning" or "the end of Oertel's walk"—others find this crude and unsafe.

The Swedish movements medical gymnastics—the term given by Lingg to a systematized series of movements, active and passive—are preferred by some. I presume most of you are familiar with these movements, and will not delay you further in explaining them.

Massage may likewise be resorted to. Still further, some physicians carry out themselves, or intrust to a trained assistant, a series of movements which are resisted by the patient, such as are produced by bracing the hands against each other and the like, always avoiding any direct strain upon the heart or lungs, and increasing the severity of the exercise, as habit and returning vigor upon the patient's part indicate. The aim being gradually to call into play all muscles of the body—a mild wrestling match as it were—but without subsequent fatigue.

Baths.—It is now almost twenty years ago since the waters of Bad Nauheim, although used for many years, received systematic attention for their influence upon rheumatic, and the consequent cardiac, disorders. Jacob of Cudowa, and later A. Schott, deceased, resorted to these baths, and combined their use with medical gymnastics in some form, for the relief of heart disease. This good work has since been continued by the brother of A. Schott, Dr. Theodore Schott, as well as by Bode, Groedel, and others.

Bad Nauheim is situated in the valley of the Rhine, an hour's journey from Frankfort-on-the-Main, *en route* to Cassel. It has an elevation of four hundred metres, has a sandy soil, has a gradually inclined mountain-side at one extremity, and extends out into a wide plateau on the other sides. It contains a number of springs, more or less powerful, containing large admixture of alkaline salts, chlorides of calcium and soda, of sulphur, iron, and abundant free carbonic acid. The temperature at which the baths are given varies from 88° F. in some to 90° and 93° F. in others. The waters are used by being diluted with ordinary water at first, and the temperature and the duration of the bath and change in its character regulated after the age, condition, and daily indications of each case. The physician gives daily minute directions for the bath, and visits his patient at varying times after the bath to study and note the effects. The improvement in the blood state is exceedingly marked, and the nearer a given case of cardiac disease comes within the range of being influenced by improved blood conditions, the more certain is a good result to be expected.

Hand in hand with this medical gymnastics have been made use of, and when a careful dietary has been added the opportunities of securing improvement increase.

I cannot refrain from referring to a case of an infant suffering from rheumatic purpura, associated with impoverished blood state, in which all the blood-vessels of the body were at fault—hemorrhages beneath the integument, behind the orbits, into the kidneys, etc., and finally pain and stiffness in all the joints supervening, with more or less complete ankylosis of some of the joints. In this case, within a fortnight after the beginning of the baths, without internal treatment, the joints were restored, and within six weeks all evidences of hemorrhage had disappeared.

Surely where such marked results have been secured, our expectations for some amelioration in favorable cases of cardiac disease may be realized. If hydræmia and plethora can be influenced in this manner, we have a potent means of improving not only cases of insufficiency and stenosis, in which the relative dilatation and hypertrophy is dependent upon either of these conditions, but even more so in many cases of degenerated or infiltrated heart-muscle, by the improved nutrition it brings to the muscle-fibre.

I quote a case of aortic stenosis and insufficiency, with compensatory hypertrophy, in a man, sixty-eight years old, a sufferer from chronic gout.

The improved tone of the heart-muscle as the result of baths alone, could not be denied.

Similarly I quote two cases of aortic and mitral disease in two females, both married, one aged forty-five, the other fifty-seven. In the latter, although arriving with marked symptoms of failure of compensation, within six weeks the dyspnœa, œdema, and fluid in the pleural cavities disappeared, and the patient returned to her home in Boston a much-improved patient.

Ample material could be supplied by others whose experience has led them in this direction before me, but today, among the seven or eight thousand persons who have sought the benefits of Bad Nauheim during the past summer, Russia, France, Austria, Holland, England, Sweden, and America, all have furnished their quota of patients, whose numbers, I am certain, will in the future be much increased.

Dr. A. Schott has, within his own and his brother's experience, treated nearly three thousand cases of chronic cardiac disease, and his results, drawn from so considerable an experience, are worthy of our encouragement. With a commendable conservatism he has differed from Oertel in the mode of applying the mechanical method. Schott regards mountain climbing, however well regulated, as suited only to the latest resources after the heart has been materially strengthened by milder measures. Accordingly he resorts first to the dietetic method and baths, next to moderate passive or active movements, regulated so as to avoid dyspnœa and overaction of the heart, and, last of all, permitting his patient the daily resort to a moderate hill-side climb.

Nothing during the past years has given rise to more animated discussion and attention abroad than the dietetic-mechanical treatment of chronic heart disease, and I quote with pleasure these words of Leyden,[1] spoken during the past year: "I have referred to the progress of the therapeutics of heart disease in the past years, made partly by the acquisition of new medicinal remedies, but in part also by the introduction of the dietetic-gymnastic method, which in a certain sense has introduced a reform in the domain of therapeutics. Even though the controversy continue, and the results and indications have not altogether been made clear—which is not surprising, considering the complicated objects of internal therapeutics — we must, beyond cavil, confess to actual progress in this direction."

If, though, we are not yet settled in our convictions, and more experience be needed to make indications clear and results unequivocal, yet we must admit that at no time does help for the chronic cardiac invalid seem nearer at hand than now, to prolong his life and to postpone the time of failing compensation.

49 West Fifty-Seventh Street.

A Definition of "Unprofessional Conduct."—In a bill to regulate the practice of medicine, recently introduced in the Oregon Legislature, there is a clause providing for the revocation of licenses for "unprofessional conduct," which is defined in the bill as follows: First, the procuring, or aiding or abetting in procuring, a criminal abortion. Second, the employing of what are known as "cappers" or "steerers." Third, the obtaining of any fee on the assurance that a manifestly incurable disease can be permanently cured. Fourth, the wilfully betraying of a professional secret. Fifth, all advertising of medical business in which untruthful and improbable statements are made. Sixth, all advertising of any medicines or of any means whereby the monthly periods of women can be regulated or the menses re-established if suppressed. Seventh, conviction of any offence involving moral turpitude. Eighth, habitual intemperance.

[1] Professor Dr. E. Leyden: Prognosis of Heart Disease, read before the Berlin Society of Internal Medicine, Deutsche Med. Wochenschrift, 1889.

Clinical Department

MELANOTIC SARCOMA WITH GENERAL MELANOSIS.

By JOHN TRUMBULL, M.D.,

Valparaiso, Chili.

A year before B——, a man aged forty-four, called on me, an attempt had been made to remove a black mole, which, though existing from childhood, had then begun to grow. The ligature occasioned considerable pain and led to severe bleeding, so that he avoided medical men until its increase in size and ulceration rendered it annoying and painful. On the abdominal wall, in the left mamillary line, and at the level of the umbilicus, I found a mushroom-shaped black tumor the size of a silver dollar, with a red granulating surface over the part exposed to abrasion from the clothing. The pedicle was short and as thick as a man's finger. No enlarged glands were to be found in the groin. Of course, immediate removal was urged.

In the first operation, done in March, 1886, healthy tissue all about was freely removed with the growth, and union by first intention secured.

Sixteen months later I was called to attend my patient for a wrench to the arm, and found a couple of enlarged glands in the axilla, with, besides, two beginning spots of discoloration in the diminutive scars of two sutures which, in the first operation, had points of suppuration. On July 30, 1887, the old scar was removed and two large coal-black glands, of giant-celled sarcomatous growth, were taken from the lower thoracic side of the axillary region.

In October, 1887, a harassing cough brought him again under observation. Examination, on natural breathing, showed a decided difference in the respiratory sounds of the two sides of the chest, which disappeared on deep inspiration. No dulness was to be detected. It was feared that there were enlarged bronchial glands, but the cough yielded finally to morphine and hydrocyanic acid.

After this the patient persistently refused to allow himself to be seen till June, 1889, almost two years since the last operation, when examination disclosed extensive recurrence in the axilla. As there had been no return of the cough, no change in the physical signs, no enlargement of the liver, and nothing to contra-indicate operation, this was done, as many as twelve distinct glands being removed, which, on section were partly black and partly translucent. Within ten days, the wound had entirely closed, the axilla was soft, and the patient went to the country to gather strength.

Six weeks later he returned because of loss of sleep from shooting pains about the shoulder and elbow. There was decided loss of strength and flesh. Deep about the axillary vessels a tumor was felt, but at the same time the liver was found enlarged and tender. So, also, the right kidney. The urine was very dark, and, while without albumin or bile pigments, it turned black on exposure, or upon the addition of nitric acid. No sediment. Further operation was refused because of the general scattering of the malignant growth.

August 21st, when seen, the growth was about the size of a hen's egg, and within three weeks was as large as a man's head. The daily increase in size was manifest both to the sight and touch; and the rapid tissue-changes were manifest by a decided elevation of temperature. The patient, aside from the neuralgic pains, never ceased to complain of the great heat, and the thermometer verified the occasion of his complaints. In the left axilla the temperature was 103.1° F.; in the right axilla, 98.6° F.; and in the mouth, 99° F.

It looked as though the black irregular mass would burst through the scar, but fortunately the rate of increase during the last weeks fell off. The liver continued to

grow in size, the splenic dulness increased, and the left chest especially showed signs of encroachment by the disease. Later on, vomiting appeared, mental disturbance, insanity of persecution, irregular pulse, blunting of sensibility, and slow death by inanition, which occurred on October 14th.

The pigment which the urine led one to believe was circulating in the blood soon showed itself by a discoloration, first of the nail-beds, and later of the whole surface. The patient, a very white-skinned man, before death became as black as a West Indian, only that the color was a bluish black.

The case seems of interest, therefore, because of :

1. Length of time that a giant-celled melanotic sarcoma was allowed to remain, and yet that repeated operations gave a lease of life for three and a half years.

2. Though free removal of apparently healthy tissue was made, recurrence at the site of the original growth took place in points irritated by suppuration of two sutures.

3. Lymphatic drainage toward the axillary glands from a point so low on the abdominal wall.

4. Final rapid growth with such increase of local temperature.

5. General staining of the surface of the body from pigment circulating in the blood.

CHLOROFORMING THE SLEEPING.

By L. A. KELLY, M.D.,
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The discussion in the MEDICAL RECORD of the effects of chloroform administered to persons while sleeping calls to mind an experiment of my own. Some two years ago I had occasion to remove a piece of catheter from the bladder of a young man, fifteen years of age. The accident happened in the morning, and I arrived at the place about midnight of the same day, to find the patient sleeping soundly and sweetly, having been asleep for fully two hours.

The subject and his necessity seemed to warrant the propriety of an experiment, if such it may be called. Without awaking him, I began to administer chloroform in the usual way. Much to my surprise, sleep continued undisturbed by the anæsthetic, not the slightest movement of limb or muscle indicating consciousness. The breathing only was slightly affected, as the sleeping passed from natural to the artificial.

The operation concluded and the chloroform suspended he was aroused with some effort by his friends. This subject had not suffered previous loss of sleep, and presented no evidence of previous exhaustion or ill-health.

Progress of Medical Science.

Two Cases of Diabetes Mellitus in Children.—The prognosis of this affection varies greatly according to the period of life at which it appears. In advanced age its progress may be greatly retarded by proper treatment. In early youth, on the contrary, its course is very rapid, and death soon closes the scene. The nature of the disease, process, or processes, on which this symptom depends is not yet understood, and in many cases in young patients no treatment seems to be of any value.

In the *Archives of Pediatrics*, October, 1889, Dr. Allen reports two cases of the disease occurring in children. In the first case, a boy, three and a half years of age, unusually bright, and previously healthy, the child of a robust father and of a nervous mother, was observed to pass an unusual quantity of urine, occasionally wetting his bed, but was supposed by the family physician to have only a catarrh of the bladder, as he seemed otherwise well. Six months later, as his micturition was very frequent, Dr. Allen was consulted. He was now weak and peevish, with marked thirst, cold limbs, and dry skin. The daily excretion of urine anounted to four quarts. Its specific gravity was 1.028, and it contained sugar. He was removed to the city and treated with reduced iron and opium, Hunyadi Janos and Sprüdl, starchy food being withheld. In consequence of change of air and diet, and of the use of the remedies mentioned, the quantity of urine and the amount of sugar became rapidly less, although the specific gravity increased. A week later, in consultation, the chloride of gold and sodium, and the phosphate and arsenite of soda were given instead of the drugs at first prescribed.

A week after this the patient was found to have lost flesh and strength, and to have taken to his bed, sleeping most of the time, but quite intelligent when aroused. The patient suffered little from thirst, but complained bitterly of hunger. A milk diet was now enforced, but the amount of sugar was not lessened thereby. He failed rapidly, with pain in the bowels and delirium, and died about four weeks after he came under Dr. Allen's care. During the twenty-four hours preceding death he lay in continuous stupor, passing hardly any urine. The autopsy disclosed nothing abnormal in the thoracic and abdominal viscera, and in the cranium only an increased amount of subarachnoid fluid, and slight opacity of the lining membrane of the lateral ventricles of the brain. The brain was unusually large.

The second patient, a boy, seven years of age, of fair health, whose father and mother were healthy, but whose great-uncle and two great-aunts had died in middle life of diabetes, was brought for treatment, as he had for more than a month been languid and thirsty, rising many times each night to urinate. His appetite was voracious, but he was very thin. Two or three quarts of urine were passed each day. Its specific gravity was 1.040, and it contained a large amount of sugar. He was treated with iron, opium, Hunyadi Janos, and Sprüdl, and non-farinaceous diet was instituted. Ten days later he was passing a quart of urine in twenty-four hours, of lower specific gravity, and containing less sugar, and he seemed to bear his diet well and get stronger on it. He was removed to Minnesota. After a temporary improvement he became tired of his diet and lost strength, although the amount of sugar did not again increase. He died about three months after he was first seen by Dr. Allen.

The Transmission of Typhoid Fever by the Air.—It has come to be generally admitted that the transmission of typhoid fever takes place principally, if not exclusively, through the water-supply. Experience, indeed, has proved this to be the case, but it must not be overlooked that other ways may exist, notably by the breathing of air contaminated with the spores of the typhoid bacillus. Some observations by Dr. Chour, of an epidemic of typhoid fever among soldiers, commented upon in the *Revue Scientifique*, serve to show the importance of not concentrating one's attention too exclusively upon any one vehicle in the endeavor to prevent the spread of the disease. Two regiments stationed at Jitomir, and supplied with drinking-water from the same source, suffered in a very different degree from the disease. The soldiers belonging to the regiment which suffered most severely were quartered in various barracks, and it was remarked that at one particular locality the men were attacked in far larger proportion than their fellows who were located elsewhere. In December, 1886, the buildings were evacuated and thoroughly cleansed and disinfected, whereupon the mortality fell to 1.7 per 1,000 in 1887, and *nil* in 1888. In the other barracks, which had not been thus dealt with, the mortality rose to 22 per 1,000 in 1887, and 33 per 1,000 in 1888. It occurred to Dr. Chour to institute an examination of the dust from the infected barracks, and he found therein an average of fourteen million microbes per gramme, among which the typhoid bacillus was easily detected. The evacuation of the rooms and their thorough disinfection promptly put an end to the epidemic.—*Medical Press.*

Creasote in Tuberculosis.—Professor Sommerbrodt declares that an experience of over five thousand cases has now proved to his own satisfaction that creasote is not merely a useful drug for the symptomatic treatment of tuberculosis, as has been conceded by others, but that it exerts a specific influence on the disease by the resistance it offers to the cultivation of tubercle bacilli. Dr. P. Guttmann had, by his experiments, shown that tubercle bacilli could scarcely be cultivated in sterilized serum containing $\frac{1}{4000}$th of its volume of creasote, and the culture entirely failed when the solution was a little more concentrated. He concludes that if it were only possible to administer sufficient creasote for the blood to contain that drug for some time in the proportion of $\frac{1}{4000}$th of its own quantity, tubercle bacilli would probably cease to develop. This, he contends, is impossible, not only because the required quantity of creasote in the blood would be more than twenty grains, but because it would be impossible to determine what quantity of creasote would have to be administered to make twenty grains of it circulate in the blood. Sommerbrodt believes that it is possible to give the necessary quantity of creasote. He has been prescribing for some time to many hundreds of tuberculous patients capsules of creasote, each containing one grain of the drug. These capsules were taken, three the first day, and every succeeding day one more, until the eighteenth day, after which the same quantity—from twenty to twenty-five grains per day—was continued for many months. The author says it is impossible to presume that the twenty grains of creasote have already entirely passed out of the blood by the time the second or third dose of the drug is given, so that probably such an accumulation of creasote takes place in the tissues as to fulfil Dr. Guttmann's postulate. He has at any rate had the most gratifying success with this medication, and his experience was that the more creasote a patient could bear in a day the greater was this success. The *modus operandi* of the creasote, Dr. Sommerbrodt says, has not yet been sufficiently cleared up. The drug is certainly a stomachic tonic, and diminishes the secretions, but these can hardly be its chief effects. He rather believes, although the experiments on animals have so far led to negative results only, that a sufficient quantity of creasote must make the soil unsuitable for the cultivation of tubercle bacilli. He suggests, therefore, that serum from a man who has for some time taken more than twenty grains of creasote be used to cultivate tubercle bacilli, so as to find if this acts differently from the serum of another person used for the same purpose—*Canadian Practitioner.*

Treatment of Eczema, Psoriasis, and Pityriasis.—At the International Congress of Dermatology and Syphilography, Dr. Gourbault reported a number of cases of eczema, psoriasis, and pityriasis, which he had rapidly cured by the following sirup and ointment: Sixteen ounces of the sirup contain—of bicarbonate and acetate of soda two drachms each, also two drachms of extract of gentian, and a similar quantity of extract of sarsaparilla; a small amount of rhubarb and senna may be added at the physician's discretion. The dose should be two fluidounces daily. The formula for the ointment is as follows:

℞. Ergotine,
Perchloride of iron ..... āā ʒ ss.
Vaseline ..... ʒ j.
M. et fiat unguent.

This should be applied to the affected parts twice a day. —*Gaillard's Journal.*

The Treatment of Insomnia.—An address on the treatment of insomnia was recently given by Dr. Jastrowitz, at the meeting of the Society for Medicine, Berlin. He first spoke of the employment of alcohol in its various forms of wine, beer, and spirits. Alcohol is given as a narcotic in acute diseases, in cases where it is desirable to use one that is not a cardiac depressant. Alcohol is first a cardiac whip, and then, when the stimulant action has passed off, a "somniferum." But even if alcohol were useful in furthering sleep, the dread and nervous excitement are often increased in melancholic patients the following morning. Persons who have become accustomed to other hypnotics think on taking opium or morphine that the sleep following these is the most natural. These are indispensable sedatives in such cases as cancer and tabes. It is a noteworthy fact that opium and morphine are first sedatives, and hypnotics only in large doses; a third and very valuable property which they possess is that of a tonic. In congestion of the chest as well as in diseases of the heart great caution must be used, as both paralyze the heart; and in chronic insomnia the danger of setting up a dangerous and intractable morphine habit must be borne in mind. In senile insomnia opium acts better than morphine; it is superior also in intestinal diseases and in certain forms of melancholia and mania. Jastrowitz has used it gladly in delirium tremens. Chloral hydrate has the advantage of being the most powerful of all hypnotics: it never fails. Sulphonal is distinguished by absence of odor and taste, so that it can easily be given to unwilling patients. All observers are agreed that it does not affect the heart. Its action, however, is very slow, so that it is not so suitable for acute affections. Neither does it relieve pain, but, on the other hand, no other drug can replace it in cases distinguished by motor restlessness, such as chorea. In mania, sulphonal is best given as a dose of 7½ to 15 grains during the day, and another dose in the evening. The sleep after sulphonal most closely resembles the natural.—*The Medical Press.*

The Influence of Ventilation on the Micro-organisms Floating in the Air.—According to Dr. Stern it is *a priori* to be expected that the influence will depend very much on the character of the ventilation. His opinion, being founded on direct experiments, will bear a value proportionate to the known reliability of the experimenter. He found that when the air was still the germ-bearing dust rapidly fell to the ground, so that in the course of an hour and a half the air was practically free from germs. Lighter material—wool, the spores of fungus, etc., required a longer period to settle down. The most powerful ventilation in ordinary use, that in which the air of a room is renewed three times in the hour did not make the air more rapidly free from germs than simple settling. One more powerful is scarcely possible without creating a draught, but it becomes gradually more effective in proportion to its strength. Its action in removing germs rapidly becomes effectual when a rapidity of six or seven renewals of the air of the room per hour is reached. It was not observed that the rapid entrance of fresh air removed to any extent the germs from the floor, carpets, furniture, or clothes. Steam was not successful in producing a rapid deposit of the suspended germs, at least not to any great extent.—*Zeitschrift für Hygiene.*

Rupture of the Gall-bladder in Infants.—M. Hayem gives a short history of a baby, aged two months, under his care, who during the second month of her life had been jaundiced to a moderate extent. The jaundice was accompanied with frequent subcutaneous hemorrhage round the umbilicus and on the lips and ears. The autopsy showed that the abdominal cavity was full of a fluid resembling bile, which seemed to have come from the gall-bladder, in which was a small recent wound imperfectly healed. The surface of the peritoneum and the mesenteric glands were deeply stained. M. Hayem considered the lesion traumatic, and thought it interesting as being practically an experiment showing the effect of aseptic bile in producing a hemorrhagic tendency. M. Ollivier had often remarked the extreme thinness of the walls of the gall-bladder in infants, and noticed that rupture was an occasional cause of death in typhoid fever by producing peritonitis.—*The Practitioner.*

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HEART DISEASE OF THE AGED.

EVERYONE knows how apt the aged are to die suddenly during the course of a mild bronchitis, or after a comparatively slight traumatism, even when they may seem to be progressing favorably toward recovery. Some old people, it is true, are most tenacious of life, and will recover from injuries that would ordinarily be fatal to much younger and seemingly stronger men; yet others, and perhaps the majority of those who have passed the scriptural limit of threescore years and ten, have but a very weak grasp upon existence in this world, and relinquish their hold upon it often without any apparently sufficient reason. This often comes from a weak heart, and it is quite common nowadays to hear of "heart-failure" given as the cause of death in aged persons.

In a paper read before the Paris Academy of Medicine on February 18, 1890, Dr. Renault, of Lyons, described a form of heart-trouble which is very common in the aged, and which he regards as the most frequent cause of heart-failure and of death in those of advanced life. This disease he calls chronic essential segmentary myocarditis, and its essence consists in a dissolving away or loosening of the cement which normally holds together the muscular segments of the myocardium. This is the only lesion in the pure cases of the disease; there is no fatty degeneration or infiltration of the heart, no cirrhosis of this organ, no accompanying catarrhal diseases of the mucous membranes, and no affections of the arteries, beyond the more or less marked atheroma, which may be looked upon as almost a normal condition of senility.

The symptoms of the affection are very clear, and serve to distinguish it from all other cardiac diseases. The first and most constant sign is irregularity in both the cardiac and the radial pulsations. Of this arythmia there are two forms, one most clear and unmistakable, the other apt to be overlooked unless the observer be on the watch for it. In the latter the pulse may seem perfectly regular to the touch, and even auscultation may not reveal the want of rhythm in the heart's contractions, but sphygmographic tracings show plainly that this condition exists, and the pulsations are seen to be neither equipotential nor equidistant. In the former variety the pulsations are irregular to the last degree, and not only does one pulsation differ from the preceding or the following, but one series of pulsations will differ from another, so that various sphygmographic tracings taken on the same individual at different times bear no resemblance whatever to each other. A second sign is the impossibility of locating the apex beat. This is felt in the usual situation, but it is diffuse, and it is impossible to put the finger on any one spot and say that there is the apex beat. A third symptom is that the area of cardiac dulness is rectangular in shape. The outer edge of this square extends from the fifth upward to the third intercostal space, keeping always within the line of the mamma; the inner edge extends along the border of the sternum from the sixth or seventh chondrosternal articulation to the third interspace. Two transverse and parallel lines, connecting these vertical lines, form the upper and lower borders of the rectangle. Auscultation furnishes us with still another valuable sign in many cases. In addition to the evidence of an arythmic action of the heart which this gives, there is often heard a characteristic murmur. This is a systolic sound heard over the centre of the heart at an equal distance from both apex and base, and never propagated any distance to one side or the other. It is never accompanied by any musical sound, but is a soft and often scarcely perceptible blowing. Another peculiarity of this murmur is its instability, for it often disappears for months at a time, and then comes back when a light bronchitis or other cause is present, to throw more work upon the weakened heart. Contrary to what obtains in organic affections of the heart which have progressed to the stage of weakness of the myocardium, as shown by the irregular pulse, there is no tumefaction or sensitiveness of the liver, nor is there any venous stasis or engorgement of the right side of the heart. At the most there may be a very slight degree of œdema about the malleoli, and sometimes careful examination reveals a moderate amount of pulmonary œdema confined to the base of the lungs, usually to that of the left lung.

Death occurs in these cases either in sudden syncope or by asystolia. The author has never observed rupture of the heart in those suffering from segmentary myocarditis, and he attributes this to the fact that, although there is a weakening of the heart-wall, there is nevertheless no cirrhosis, no increase of the intermuscular connective tissue, which has been shown by Robin to be one of the essential conditions of this accident. As before stated, the affection is essentially a senile disease, but it is also seen in those prematurely aged by the abuse of alcohol, by gout, or by some other chronic affection.

In the treatment of this condition Dr. Renault relies mainly upon digitalis, general tonics, and stimulants. The subjects of this disease are especially vulnerable, and should be protected with the greatest care against all injurious influences, especially bronchitis, which is so apt to prove fatal to the weakened heart. Whenever bronchitis attacks one of these patients the author has recourse at once to digitalis and to ergot, the latter as a special arterial tonic. In addition, champagne is often of the greatest service.

THE EXPERIENCES OF A BOTANIST AND PHYSICIAN IN SOUTH AMERICA.

AT a reception given by Mr. William H. S. Wood, on Monday evening last, Dr. H. H. Rusby entertained the guests with a most interesting account of his experiences

while on a two years' botanizing expedition in South America.

Dr. Rusby's route was along the Pacific coast to the southern part of Peru, where he went inland across the Andes to the Madeira River, and then descended that river and the Amazon to the Atlantic coast. He encountered many kinds of climate, and sometimes the changes were sudden and great, so that, starting in the morning from a region of snow and ice, before evening he would find himself surrounded by banana and orange trees and all the rank vegetation of the tropics. No greater contrast could be imagined than what is to be found between the east and the west sides of the Andes. On the Pacific side rain is almost unknown, the soil is a fine sand, and the whole country is a veritable desert. The climate is a most healthful one, and is especially adapted to the treatment of pulmonary diseases, such a thing as phthisis being practically unknown in that region. If it were not for the indescribably filthy habits of the natives of the country death from disease would be a most rare occurrence. But on the other side of the mountains rain is constant, a day seldom passing, even in the so-called dry season, in which there is not more or less rain, and during the remainder of the year there is one almost uninterrupted downpour. The climate is raw and bleak. The natives are a well developed and sturdy race, and the most industrious, the speaker said, that he had ever seen. They will run long distances, carrying heavy loads on their backs, the women even spinning while they run, and never seem to tire; yet their industry brings them little, and they are so wretchedly poor that, in spite of the fact that it is a grazing country, they almost never taste meat. Their principal food is a vegetable resembling our spinach. One of the most common diseases of this region is heart disease, induced, it is said, by the running and mountain climbing. It would thus appear that mountain climbing may be as injurious to the heart, if indulged in too recklessly, as it is claimed to be beneficial when done moderately and according to medical prescription. Another common affection is one of the lungs, which occurs as a sequel to emphysema.

In passing from these high table-lands to the valley below the climatic change is exceedingly abrupt; the traveller may be walking through snow and ice, and shivering with the cold, and when he turns around the corner of a large rock immediately a warm breeze strikes his face, and in a short time he stops to rest in a tropical garden. A gentleman whom Dr. Rusby met there could gather ice and pick oranges on the same day on his own estate, so that his farm, as the speaker said, extended from the north pole to the equator. The natives of this region are large and powerful, but are affected by the climate, and have little of the energy and industry of their neighbors on the heights above. A peculiar disease from which they often suffer is characterized by the formation of ulcers, of variable size, resembling somewhat soft chancres, with slightly infiltrated, but never indurated, edges. These ulcers are found on the shin, forearm, back of the hand, and in other places. It is seldom that any treatment is effectual in arresting the disease when once it has commenced; the ulcers continue to increase in size and numbers, and finally the patient dies from exhaustion. The vitality of the inhabitants of this portion of the world is very low; the adults are apparently robust, but when once they are attacked by disease they die almost without a struggle. Often the inhabitants of a certain region will nearly all die, even when there is no epidemic to carry them off, and they die simply because they have no resisting power, no hold upon life.

Dr. Rusby had an opportunity of noting the prostrating effects of disease in this country in his own person. He was attacked by a malarial fever on one occasion, but did not consider himself very sick, and was a little surprised, and even amused, to note the seemingly undue anxiety of those about him. He had, he said, often had malaria in New Jersey, and apparently in a much more severe form, and he was rather congratulating himself upon the mildness of his present seizure. The next day, however, although the fever was gone, he found himself utterly prostrated, and it was a long time before his strength was sufficiently restored to enable him to be up and about again. An interesting fact mentioned by the speaker was that there was but little danger of malaria in sleeping near stagnant pools, but that a sojourn near running streams or waterfalls was almost sure to be followed by a seizure. This would seem to argue in support of the theory advanced some time ago, that the malarial poison is carried by running water from wooded regions and that marshes are not its natural habitat. One potent cause of the lowered powers of resistance to disease, which is so noticeable in the natives of the country, is the wearing effect upon the nervous system of the continual attacks of insects. These creatures are the great scourge of the land. Ants, mosquitoes, gnats, jiggers, fleas, and myriads of other varieties are present everywhere, and the suffering caused by their bites is something that beggars description. There is no rest from their attacks by night or day. The bites of many of them cause not only annoyance but acute suffering, and it is easy to imagine the depressing effects upon the nervous system of such a continual warfare with these invincible, though almost invisible, foes. The natives have many strange customs—such as worshipping pieces of wood, not fashioned into any shape of man or beast, but simply in the natural state or only polished, during the rainy season, and worshipping stones during the dry season; playing a game of ball in which the player's hip serves as a bat, chewing of coca leaves by the men alone in the temples, as a form of worship, etc.—to which Dr. Rusby referred, but which we cannot do more than allude to here. In regard to the effects of coca-chewing, concerning which travellers relate such wonderful tales, the speaker said that they were undoubtedly true. The porters of goods over the Andes will go sometimes for two or three days with scarcely any food if only they have a supply of coca-leaves. There is apparently some substance in the fresh leaves which is of a volatile nature, and consequently is not found in the dried product, upon which this stimulating property depends. The amount of cocaine seems to have no influence upon the stimulating effect of the leaves, for in two specimens, one of which was pronounced good by the natives and the other bad, the proportion of cocaine was the same. Dr. Rusby was unable to detect any injurious effects from the habit of chewing the leaves. The men would not work as well when deprived of the plant, but there was no depression, and none of the symptoms seen in those addicted

to the cocaine habit. There was much else of great interest in Dr. Rusby's informal talk which we are obliged to pass over without even mention, but we hope that his labors in his chosen science will not be so exacting as to prevent him from writing an account of what he saw in this little-known country for the benefit of those who are able to see the strange parts of the world only through the eyes of others.

THE BILLS FOR BOARDS OF MEDICAL EXAMINERS.

There are at present before the Legislature at Albany two bills providing for the creation of State Boards of Medical Examiners. One of these provides for three independent Boards, a Regular, a Homœopathic, and an Eclectic; the other provides simply for one Board, before which all persons who wish to enter upon the practice of medicine in this State must come.

The lay press is somewhat divided in its opinions upon these measures. The *Herald*, whose editorial writers usually develop rare powers of misconception and a singular breadth of ignorance when medical topics are discussed, advocates the triple Board bill. The *Sun* urges the establishment of a single Board, and rightly says that the public is not interested in supporting and paying for peculiar therapeutical fashions, but is only desirous that its licensed physicians should be thoroughly grounded in the elemental branches of medicine.

This, we believe, is the view which sensible people will eventually adopt. The State will see that men who are to be entrusted with their health and lives are persons who have sufficient natural endowments to master the knowledge of anatomy, physiology, chemistry, obstetrics, surgery, and pathology. If they are well equipped in these respects, it need never fear that they will run after any therapeutical fads or fancies to an extent detrimental to public safety. A good preliminary education and a sound training in the medical sciences, is what regular physicians ask the State to insure to the people, and one Board of Examiners is enough to carry out this purpose.

A YEAR'S STUDY OF THE HEART.

A review of the contributions to the physiology and pathology of the heart and blood-vessels is to be found in the issue of *Schmidt's Jahrbücher* for February, 1890. The author is Dr. Schmaltz, and it is needless to say that he deals with the subject in a scientific, not a sentimental manner.

In the year 1889 the heart, popularly so called, has poured itself forth in hundreds of pages of poetry, oratory, and devotion, but the anatomical viscus has given rise to just one hundred and eight medical observations, collected and analyzed as above stated. Nearly half of these concern the general pathology and symptomatology of heart affections. The physiology of the heart, its neuroses, its special valvular lesions are discussed in eight or ten articles respectively. But little, we regret to say, has been added to the pathology of disease of the vessels, although medical writers continue copiously to report cases of aneurisms which have but a passing interest and no permanent value.

Under the head of general pathology we find one writer, Kirch, confirming the view of Nothnagel that arythmia is not a frequent characteristic of fatty heart. Several writers have discussed the curious cases of very slow pulse. Balfour has tried to draw a clinical picture of the "senile heart," which, he says, is characterized by abnormal frequency, or slowness or irregularity of action, with sometimes an abnormal accentuation of the heart-sounds (embryocardia).

The contributions to therapeutics include articles upon strophanthus, digitalis, spartein, milk sugar, massage of the heart, and the Oertel cure.

News of the Week.

The Wisconsin Training School for Nurses in Milwaukee has retired from the County Hospital, owing to a disagreement with the authorities of the institution, and will probably take up its quarters in the Passavant Hospital.

Medical College Commencements.—Graduation exercises have been held in the following schools during the past week: Medical Department of the Arkansas Industrial University, Little Rock, Ark.; College of Physicians and Surgeons, Baltimore, Md.; Michigan College of Medicine and Surgery, Detroit, Mich.; Albany Medical College, Albany, N. Y.

Denver has recently organized two new societies, the Obstetrical and Gynecological Society, and the Medico-Legal Society.

A Medical Postmaster.—Dr. Thomas Kelley, of San José, Cal., has been appointed postmaster in that city.

The Oldest Freemason in the World is said to be Dr. William Salmon, of England, whose age is over one hundred years.

An International Congress of Female Physicians.—Some of the medical women of Chicago are agitating the question of organizing an international congress of women physicians, to be held during the World's Fair in 1892 or 1893, and a committee is preparing a circular to be sent to the women physicians of all nations, which will fully outline the plan of work.

Trouble in Girard College. — Charges have been brought against many of the prefects of Girard College, Philadelphia, and they are accused of great cruelty to the boys under their care.

The Medical Staff of the Philadelphia Hospital.—The Civil Service Association of Philadelphia has, through its attorneys, applied to the Attorney-General to obtain a writ of mandamus to compel the Mayor and the Board of Charities and Correction to fill the positions on the medical staff of the Philadelphia Hospital in accordance with the provisions of the amended city charter (called the Bullitt law). It is claimed that the election of Visiting Physicians held by the President and Directors of the Department of Charities and Correction on December 31, 1889, was legally ineffective, and that the Visiting Physicians then appointed have not thereby acquired legal titles to their offices.

Typhoid Fever in Bolivia.—A letter from San José de Costa Rica states that typhoid fever is raging in La Paza, Bolivia. Over three thousand cases were reported during a single week.

The Eruptive Hospital in Louisville, Ky., is to be placed under the care of the Sisters of Charity.

The Massachusetts Association of Boards of Health.—A meeting of about fifty gentlemen, representing various boards of health in Massachusetts, was held in Boston, on March 19th, to organize a State Association. According to the constitution the name of the association is the Massachusetts Association of Boards of Health. The object of the association is the advancement of sanitary science in the State of Massachusetts, better organization and co-operation in the local boards of health, and the uniform enforcement of sanitary laws and regulations of the various boards. Any person holding an appointment as a member of the board of health in a city or town in the State may become a member of the association. Dr. H. P. Walcott, of Cambridge, was chosen *President;* Dr. Durgin, of Boston, *First Vice-President;* L. F. Woodward, of Worcester, *Secretary;* and Dr. J. B. Field, of Lowell, *Treasurer.*

Thirty Thousand Dollars for a Hospital.—Hon. George A. Pillsbury, of Minneapolis, ex-mayor and twenty-seven years a resident of Concord prior to 1880, has given $30,000 to the Concord Hospital Association for a new building, to be named the Margaret Pillsbury Hospital, as a memorial to his wife.

A Dangerous Hugger.—There is said to be a girl in Genesee County, in this State, whose strength is so great that when she hugs a man she always breaks one or more of his ribs. When she drives with a young man she is always asked to take the lines.

In Diabetic Coma, Dr. Dickinson has shown that large intravenous injections (100 oz.) of a saline solution restores consciousness temporarily.

The Influenza Epidemic has in some localities largely increased the number of suicides. Seventy-five occurred in Berlin in the month of February.

The International Medical Congress.—The invitations and preliminary departmental programmes for the International Medical Congress, to be held next August are now ready, and are to be sent this month. The organization committee of the department for general pathology and pathological anatomy, of which Professor Virchow, the President of the Congress, is the head, has selected the following themes for discussion: (1) Lesions of the Myocardium; (2) The Share taken by the White Blood-corpuscles in the Formation of Tissues; and (3) Tuberculosis.

A Case of Long Memory.—The treasurer of the Royal Westminster Ophthalmic Hospital has recently acknowledged the gift of $250 from an anonymous donor, signing himself "Grateful," in recognition of a successful operation performed on his father, upward of fifty years ago, by the late Dr. Guthrie.

The Memorial Hospital at Scranton.—It has been authoritatively announced to the managers of the Moses Taylor Memorial Hospital, at Scranton, Pa., that it is the purpose of Mrs. Taylor to contribute an endowment fund of $250,000, the income of which shall be used for the maintenance of the hospital. The various members of Mr. Taylor's family have now contributed $650,000 to the hospital.

The California State Medical Society meets at Los Angeles, April 15, 16, and 17, 1890.

The Mississippi State Medical Association meets at Jackson, April 16th.

The Tennessee State Medical Society meets at Memphis, April 8th.

The Arkansas State Medical Society meets at Little Rock, May 14th.

We learn that there is a Medical College in Jersey City. It is called the New Jersey Medical and Surgical College, and it recently graduated a class of three.

Bellevue Hospital Medical College held its Commencement, March 10th, graduating one hundred and forty-four students.

The Meeting of the Association of American Physicians has been changed to May 13th, 14th, and 15th.

A "Cynophile" is the latest name for the "dog-loving" anti-vivisectionist.

The Influenza has recently appeared in the Bermuda Islands.

A Uniform Standard for Admission to State Medical Societies.—At its last quarterly meeting the Rhode Island State Medical Society adopted the following resolution, viz., "That the President of the Rhode Island Medical Society shall be authorized to open negotiations with the medical societies of such other States as have a system of entrance examinations similar to our own, to have an agreement between the different State societies arrived at, by which membership in any one of the agreeing State societies shall be sufficient proof of qualification to become, upon application, a member of any other State society without further conditions of admittance. And also to have in the agreement a clause incorporated which will admit, upon application, to membership in any of such corresponding State societies, the members of the medical and surgical staffs of the United States Army and Navy without further conditions of admittance." The plan above suggested is an interesting one, and deserves the attention of our State medical organizations.

The United States Government Hospitals at the Hot Springs.—The association in the public and professional mind of the Arkansas Hot Springs with the treatment of syphilis is a very general one, and is pretty substantially founded. The proposal by Congress to establish a hospital there for the "rheumatic" veterans of the National Soldiers' Homes will strike one, therefore, as being highly interesting. The United States Government has already an Army and Navy Hospital at that place, so that those in active service can receive treatment for their exposures and indiscretions. The Government's final step will be, perhaps, to have a hospital there for its civil employees.

The Medical Colleges of the United States will be represented at a conference to be held at Nashville, Tenn., in May next, at the time of meeting of the American Medical Association, to consider the following points: 1. Three years' course of six months' session. 2. Graded curriculum. 3. Written or oral examinations. 4. Preliminary examination in English. 5. Laboratory instruction in chemistry, histology, and pathology.

Dr. Charles F. Stillman, formerly of this city, is now practising in Chicago, Ill.

The Indiana Medical College has lengthened its course of study to three years and its term to six months.

Hygiene at the University of Pennsylvania.—A new building is about to be erected at a cost of $50,000, for the department of hygiene at the University of Pennsylvania. An endowment fund of $200,000 for the new department has been raised by individual subscriptions.

A Hospital in Langholm, Scotland.—Mr. Thomas Hope, who died at Noroton, Conn., on March 3d, left by his will about $400,000 to found a hospital at Langholm, Scotland, where he was born. Mr. Hope came to this city when a boy and made a fortune in the grocery business, having founded the present house of Acker, Merrall, & Condit.

Examinations for Foreign Physicians.—At the recent monthly meeting of the Kings County Medical Society the Council recommended that, in the sense of the Society, diplomas from foreign medical colleges should not entitle the holders to practise without an examination. The reading of this section of the report of the Council gave rise to some discussion, but it was finally adopted.

Dr. William C. Lane, of Mercersburg, Pa., died in that place a few days ago, aged sixty-five. Dr. Lane was a graduate of the University of Pennsylvania and served as surgeon in the army during the war of the rebellion. He has left a wife and five children.

A Project is on foot to establish a charity hospital in San Francisco.

Material for Dissection.—In a petition to the Senate in favor of the passage of a bill giving the bodies of unclaimed dead to the medical colleges, and which was signed by a number of physicians of the District of Columbia, it is stated frankly that in the District of Columbia, during the last sixty years or more, the bodies used for dissection have been surreptitiously obtained, often enough at the risk of life and limb as well as liberty.

Information for Medical Students in Berlin.—Last year the Young Men's League of the American Church in Berlin announced that it would gladly assist any young men who were coming to Berlin to attend the University, or any of the various schools of art and music, and who desired information in regard to studies, expenses, rooms, and boarding places. Quite a number took advantage of this offer and received valuable assistance. The League is still ready to be of service to new comers, and so would make the same announcement this year. Application by letter or in person may be made to W. H. Manss, Bülowstr., 18, I; to H. F. Gilt, Wilhelmstr., 118, III, or to C. M. Clark, Teltowerstr., 23, I. This special committee will act till August 1, 1890, after which date inquiry should be made for the president of the League at the Y. M. C. A. building, Wilhelmstr., 34, Hof.

Yellow Fever in Brazil.—A cablegram from Paris states that yellow fever has broken out in a number of the towns along the coast of Brazil.

Dr. J. W. Jackson died recently in Kansas City. He was born in Virginia, but studied medicine in St. Louis, where he obtained his degree in 1864.

Sir William Gull left a fortune, so it is stated, of considerably over one million dollars. If this is true his estate is in striking contrast to those of most medical men.

The Alabama State Medical Association will hold its annual meeting at Birmingham, on April 8th. The question of contract practice will be a prominent one at this meeting. It is now a rule of the association that no member shall do contract practice. The present contract surgeon of the Cahaba Coal Mining Company, at Blocton, sent his resignation to the association at the time he accepted the position with the company, but the resignation was not accepted, and the surgeon was suspended. It is thought that he will now test the right of the Board of Censors to expel him, on the ground that he sent in his resignation before he had violated any rule.

The Italian Maritime Hospital was opened in Brooklyn on March 16th. It is located at 141 Harrison Street, in a building formerly used as a private dwelling. It contains fourteen rooms for the use of the patients. In the basement are a laboratory, physician's room, bath-rooms, kitchen, and store-rooms. On the first floor are two reception-rooms, a parlor, and two large patients' rooms. On the second or top floor are two rooms reserved exclusively for the use of sea captains. According to the by-laws of the hospital a tax of nine dollars is levied personally on every Italian sea captain sailing between this and foreign ports every time his vessel touches at this port. This money is used for the maintenance of the hospital, which is a free institution. This tax is said to be paid cheerfully by the captains.

Dr. B. Sweeny, of Du Bois, Pa., died in that place on March 11th, in his seventieth year. He was the eldest practitioner in that part of the State.

The Leprosy Settlement at Tracadie.—A report on leprosy at the lazaretto, Tracadie, N. B., has been presented to the Ottawa Government by Dr. A. C. Smith, visiting physician of that institution. He reports twenty persons suffering from that disease now in the lazaretto, and three deaths as having occurred during the year. Leprosy, he states, is dying out in Tracadie, but as cases were reported appearing in the neighboring districts, Dr. Smith made a special tour of inspection, which resulted in his finding a focus of the disease between Caraquet and Shippgun, and he traced from this centre several cases to other settlements. The doctor urges permanent measures of segregation as the only means of stamping out the disease.

The Brain of Laura Bridgman, the celebrated blind and deaf-mute pupil of Dr. Howe, is being carefully examined at Clark University, Worcester, by Dr. Donaldson, who, it is said, will shortly publish the results of his study.

Where Medical Practice is Fraught With Danger.—Reports from various parts of the Western country have appeared recently in the papers of the killing of several "medicine men" by the Indians, because of bad luck in the management of their cases. If their patients recover the medicine men are a power and command the respect of the tribe, but when they are unsuccessful their lives are often sacrificed. After all, the difference in the treatment of his physicians by the savage red man and his civilized white brother is rather one of degree than of kind.

New York Post-Graduate Medical School and Hospital.—The following additions have been made to the Faculty of the New York Post-Graduate Medical School and Hospital: Charles B. Kelsey, M.D., Professor of Rectal Diseases; Charles H. Knight, M.D., Professor of Laryngology and Rhinology; Reynold W. Wilcox, M.D., Professor of Clinical Medicine; Dr. S. Lustgarten, formerly Privat Docent in Vienna University, Instructor in Syphilis and Dermatology.

New York Ophthalmological Society.—At a recent meeting of the New York Ophthalmological Society, the following officers were elected to serve for the ensuing year: S. B. St. John, M.D., Hartford, Conn., *President;* H. S. Oppenheimer, M.D., *Vice-President;* John E. Weeks, M.D., *Secretary and Treasurer.*

A Bill Exempting Physicians from Personal Taxation is before the Legislature of Mississippi. It meets with much opposition on the ground of class legislation.

Dr. Henry S. Schell, of Philadelphia, died at San Diego, Cal., on March 15th. He was a graduate of the University of Pennsylvania in 1857, and was fifty-five years old at the time of his death.

Midwives and Antisepsis.—By a recent ministerial decree midwives in Prussia are directed to observe the strictest antiseptic precautions in attending on lying-in women. A complete code of instructions on this head is furnished them, in which it is satisfactory to see that the nail-brush figures conspicuously.

France and the Berlin International Medical Congress.—The French Medical Press Association had the subject of the Berlin Medical Congress under consideration at their ordinary quarterly dinner on February 14th. No definite conclusion having been come to as to the attitude to be assumed toward the scientific gathering in Germany, the members of the Association decided that it would be advisable to fortify themselves for finally grappling with this important matter by an "extraordinary dinner," which was to take place on the second Friday in March. It is said that the funds of the Association are "amply sufficient" for this expense, a circumstance which justifies the hope that the dinner may be good enough to let counsels of peace and good-will prevail.

A Death During the Administration of Ether is reported from Nashville, Tenn. The patient was the wife of a physician, and ether was given preliminary to the opening of an abscess of the leg, but she died before the operation was begun.

Reviews and Notices of Books.

A Reference Handbook of the Medical Sciences, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Illustrated by chromo-lithographs and fine wood engravings. Edited by Albert H. Buck, M.D., New York City. Volumes I. to VIII. New York: William Wood & Co. 1885–1889.

From time to time, as the several volumes of this work have appeared, we have noticed them in these columns, but have been compelled to do so briefly, preferring to wait until the series was completed to give a general review of the whole work. Now that this time has come we approach the task with hesitation, and this for two reasons: First, because it is manifestly impossible for any one writer, however versatile he might be, to review critically and with judgment a work of this kind, embracing as it does articles on almost every topic even remotely connected with the science of medicine. The second reason is that such a review as the importance and merits of the Handbook deserve cannot be condensed within the ordinary limits of a journal article. A bare enumeration of the most important subjects treated of would make a good-sized pamphlet, and still nothing in the nature of a critical review would have been made. We shall not attempt, therefore, to do more than call attention to a few of the leading articles under each department of medicine, seeking in this way to indicate the general character of the work without expanding the notice to undue length.

The aim of the editor of the Handbook, as indicated in the sub-title of the first volume, was to make "a complete and convenient work of reference for information upon topics belonging to the entire range of scientific and practical medicine," this work being made up of a series of concise essays, arranged in the alphabetical order of the topics of which they treat, and prepared by writers who are experts in their respective departments. That he has in the main succeeded in his endeavor must be admitted. We cannot indeed praise every article in the work, but we can praise the work as a whole; for the general character of the articles is so excellent, and the Handbook so very nearly corresponds to what the editor tried to make it, that the failure of two or three of the contributors to treat their subjects in a satisfactory manner is forgiven, or most likely not noticed, by the majority of those who have occasion to turn to the volumes for information on any topic.

Most of the writers are men well known throughout the country for their superior ability and their special knowledge of the subjects allotted to them, yet we find also many new names, and some of them, indeed, the authors of not a few of the best articles in the whole treatise. The accomplished editor seems to have strongly developed that instinct, as rare as it is wonderful, of discovering new writers and good writers. Some of the most important subjects in the Handbook have been intrusted to hitherto unknown authors, and they have been treated in a masterly way, and one that will not fail to bring to the writers honor and fame.

Some of the principal anatomical subjects are: Ankle-joint, Aorta, Anomalies of Arteries, Anomalies of Muscles, Arthrology, The Ear, Uterus and Vagina, Blood-vessels, Brain, Spinal Cord, Cranial Nerves, Spinal Nerves, Sympathetic Nervous System, Lymphatic System, Prostate Gland, Shoulder-joint, Eye, Intestine, Thorax, Transposition of Viscera, Anomalies of Veins, Blood-vessels of the Brain, The Skin and its Appendages, Perineum (male and female), Anatomical Terminology, etc. There are also many special articles on applied anatomy, such as the abdomen, face, foot, thigh, intestine, axilla, neck, etc. Comparative anatomy likewise receives some attention, though rather incidentally than intentionally.

The articles on organic materia medica and medical botany (many of them beautifully illustrated) were written by Dr. W. P. Bolles, of Boston. They are excellent in every particular, concise yet giving all needed information, and models of what articles in a work of this kind ought to be. The same remarks apply with equal truth to the articles on inorganic materia medica written by Dr. Edward Curtis, of this city. Nothing could be better than the way in which the subject of materia medica in its entirety has been treated by these two accomplished authorities.

The subject of histology is another one that has been most ably treated by Dr. T. M. Prudden, of New York. His articles are full of information, but short and to the point. Dr. G. C. Freeborn, also of this city, contributes an eminently practical article on histological technique.

Physiology and Animal Chemistry are treated of in a large number of separate articles.

Dr. Charles Sedgwick Minot, of Boston, is the author of a number of excellent articles on embryology.

The chief contributor to the subject of pathology is Dr. W. T. Councilman, of Baltimore, who has a number of sterling articles.

The subject of bacteriology receives ample treatment in articles on Bacteria, by Wm. T. Sedgwick, of Boston; Staining and Cultivation of Micro organisms, by Geo. C. Freeborn, of New York, and others.

Most of the articles descriptive of the various parasites that may infest the human body are from the pen of Dr. Charles E. Hackley, of this city. The parasites of the skin seem to have been described by the writers on dermatological topics.

The latter subjects are, of course, very numerous. The syphilitic diseases of the skin are described in the article on Syphilis (one of the best in the whole book, by the way), by James Nevins Hyde, of Chicago.

There are a great many short articles, one or two columns in length, on therapeutic subjects, scattered throughout the volumes. These are written by various contributors, most of them being what we might call the regular writers, members of the staff as it were, of the Handbook. There are several names which appear very frequently throughout the eight volumes, and appended to articles on all sorts of subjects, and the editor seems to have had certain men upon whom he called to contribute short articles on minor subjects which required considerable reading and compiling, but not much original research. A large number of such articles are necessary in any work of an encyclopædic character, and those in this work strike us as being remarkably good.

Allied to materia medica and therapeutics is the subject of toxicology, to which considerable space is devoted.

A series of interesting and useful articles are those on diagnosis. They include the differential diagnosis of special systems, as of local lesions in the brain, pons, and spinal cord, and of valvular diseases of the heart, and also descriptions of particular methods of diagnosis and of special instruments used for diagnostic purposes.

The medical topics treated of are legion, and we cannot attempt to give a fair presentation of them in the space at our disposal. Among the contributors are some of the best known physicians in the country, and though the articles are not all of uniform excellence, they are thoroughly good and are certainly equal to any that we have seen in any similar work in which medical subjects, strictly speaking, are treated.

The same remarks will apply to the manner in which the surgical subjects in this work are treated. They are written by surgeons of eminence in this country and Canada, and cover the entire field of operative surgery and surgical pathology.

A good deal of space is devoted to military and naval surgery.

Among the writers on obstetrical and gynecological subjects we find so many of the leading authorities of this country and Canada, that it is impossible to enumerate them.

There are a few articles referring especially to life insurance, among which the most important that we have noticed in our examination of the Handbook are, Selections of Lives, Laws of Insurance, and Mortality.

The treatment of the neurological subjects has been intrusted to a number of well-known authorities in this branch of medicine.

The anatomy of the brain and spinal cord receives very exhaustive treatment, though in some of the articles the new nomenclature which a few enthusiasts are trying (vainly, we hope) to introduce is employed.

In ophthalmology we find a number of most excellent papers. No other department of medical knowledge is more strongly represented in the Handbook than is that of Ophthalmology.

As the editor of this work is himself a distinguished aural surgeon, we would naturally expect to find this department well cared for. Dr. Buck has written a few of the articles, though not as many as he would have written probably, had some other person been the editor of the work.

In laryngology and rhinology there are many contributors, the two names that appear with the greatest frequency being Delavan, of this city, and Mackenzie, of Baltimore.

Considerable space is devoted to a consideration of climatology and health-resorts, there being an article on each of these subjects, and also separate papers descriptive of the most important health-resorts and medicinal springs in the world; the former are accompanied in many instances by charts of the temperature, rainfall, prevailing winds, etc., and in the latter are to be found analyses of the waters. There is also a paper on medicinal springs in general by Beaumont Small, of Ottawa, Canada, giving the principal indications for a resort to them in the attempted cure of disease.

Most of the medico-legal subjects are treated of by lawyers well known as authorities in medical jurisprudence.

The papers on hygiene and state medicine are very well written, for the most part, and are as interesting as they are practical and instructive.

There are, finally, a large number of articles on miscellaneous topics, which cannot be classified, but which are, many of them at least, of very great importance to the physician, and could not have been omitted from a work of this encyclopædic character. The following are some of the subjects coming under this omnibus head: Ambulance, Apothecary, Artificial Limbs, Atavism, Cephalometry, Childhood, Old Age, Consanguinity, Contagion, Cosmetics, Deaf-mutes, Weights and Measures, Fahrenheit and Centigrade Scales, Longevity, Infancy, Idiosyncrasy, Personal Nomenclature in Medicine, Poisonous Reptiles, Mushrooms and other Poisonous and Edible Fungi, Preparation of Skeletons, Ptomaines, Prescription-writing, Railway Medical Service, Puberty, Teratology, History of Tuberculosis, Thought-transference, Veterinary Post-mortem Examinations, Wet Nurses, Wines, Spirits, and Beers, Pension Laws, Thompsonianism and Perkinism, Influence of Race and Nationality upon Disease, etc.

We have endeavored in this review, which, long as it is, is far too short to permit of justice being done to many of the invaluable papers, to give an idea of the Handbook, so that one might know, before having seen it, about what it contains. It has been possible to mention only a few of the contributors whose names meet us in looking through the six thousand and more closely printed pages, for there are in all more than three hundred of them. The illustrations, of which there are over five thousand woodcuts and thirty-four lithographic plates, are vastly superior to any that we have ever seen in any similar work. They are well executed, show what they are designed to show (a merit that all wood-engravings do not possess), and are new; we see some old friends here and there, but they are not numerous, and most of the cuts seem to have been specially executed for the articles which they illustrate. An index of nearly two hundred three-column pages makes accessible the vast amount of information contained in these eight volumes. The typography and binding cannot be surpassed, the type is beautifully distinct, the ink is a deep black, and the remarkable freedom from typographical errors bears witness to careful proof-reading. The Handbook, as we have said, is not perfect, but it comes so near to the idea of what such a work should be that we have not the heart to dwell upon the few imperfections that we have detected on close scrutiny, and which we have mentioned above. The whole work is one that reflects credit upon American medicine, and the editor, contributors, and publishers may well be proud of their respective shares in the making of the book.

Society Reports.

NEW YORK PATHOLOGICAL SOCIETY.

Anniversary Meeting, January 8, 1890.

WILLIAM P. NORTHRUP, M.D., PRESIDENT, IN THE CHAIR.

Bacillus Versicolor.—DR. T. M. PRUDDEN presented a series of test-tubes containing cultures of a new chromogenic bacillus, and made the following remarks:

This bacillus, so far as I am aware, has never been described. I have called it, for reasons which will appear in its description, Bacillus Versicolor.

It has been found several times, floating with other micro-organisms in the dust of the air about New York. But it has been found only in single examples, and in comparison with other aërial organisms is rare. It is a short, round-end bacillus, about 0.75 to 1 μ thick, and 1.5 to 2 μ long, occurring singly and in pairs.

It fluidifies nutrient gelatine slowly, shows very slight mobility in fluids, and grows best at ordinary room temperature. It is aërobic, and no spore formation has been detected. On solid culture media it forms at first a grayish translucent pellicle, which soon becomes of a marked but dull lemon-yellow color. It develops in all the transparent culture media, at first a pink and then a rich red color. This color gradually permeates the non-fluidifying culture media.

The media in which the red color is thus developed show with the spectroscope two sharply defined absorption bands between D and E, which in situation and appearance are almost identical with the bands of a moderately dilute solution of oxyhæmo-globin. The growth in general is moderately rapid.

On *gelatin plates*, after forty-eight hours, the deep white round or oval colonies are from .1 to .3 mm. in diameter. Under the microscope they appear nearly opaque, but have a greenish-yellow shimmer; the edge is sharp and slightly rough, the surface finely linear granular. The surface colonies, at first translucent and waxy, gradually assume a yellow color, and are slightly raised. They may, in seventy-two hours, become from 2 to 3 mm. in diameter, the surface is slightly wrinkled and cup-shaped from fluidification of the gelatine. In from four to six days the yellow discodial colonies float about in a pit of turbid fluidified gelatine.

In *agar tubes* the growth on the surface is at first of a translucent grayish-white color, smooth and shining. Later it may spread to from 3 to 5 mm., forming a slightly raised yellow pellicle. Growth along the puncture-line is moderate.

The red color appears first about the top of the puncture-line, and gradually deepens in hue as it spreads through the agar mass. It is often several days before the red color is markedly developed in the agar. At 37° C. the growth is much retarded.

Glycerine agar tubes show the same characters as agar.

Gelatine Tubes.—A thin yellowish pellicle at first spreads from the puncture and becomes more or less cup-shaped. The growth along the puncture line is slight and diffuse. The gelatine is slowly fluidified, the fluid gradually assuming a rose-red color, as does the zone of solid gelatine about it.

When the fluidification is advanced, a yellow pellicle floats at the surface or sinks in a yellow mass to the bottom of the fluid.

Beef-tea becomes turbid at first, then reddish, with a sediment.

Blood Serum.—Growth similar to that on Agar.

Potatoes.—The growth is moderately rapid, forming a thick, irregular, raised greenish-yellow mass, which gradually becomes darker in color.

Subcutaneous inoculation in rabbits and white mice, even of considerable quantities, produces no appreciable effect.

Remarks.—There is considerable variation in the rapidity of growth and color-producing power in the different specimens of this bacillus which I have found. Its vigor seems to suffer somewhat under prolonged cultivation.

Cilia on Bacteria.—DR. JOHN S. ELY presented some microscope-slides showing cilia on bacteria, and made the following remarks: Great mobility has long been known to characterize many of the bacteria. From the first this was thought to be due to the activity of cilia on the ends of the bacteria, and in a few large species the truth of this was early demonstrated, but the vast majority of the mobile bacteria have until very recently baffled all attempts to discover their minute locomotive organs, and we have been obliged to infer their existence, without, however, being able to prove it. A new method of staining, introduced by Loeffler, makes the cilia easily visible. Loeffler very ingeniously hit upon the idea of intensifying the coloring power of his dyes by the use of mordants. The mordant recommended is an ink prepared by mixing a solution of tannin, ferrous sulphate, and infusion of logwood. To 10 c.c. of a twenty per cent. aqueous solution of tannin, an aqueous solution of ferrous sulphate is added drop by drop until a violet-black color is produced; then 3 or 4 c.c. of an infusion of logwood (1 part logwood, 8 parts water) are added, and finally 5 c.c. of a five per cent. solution of carbolic acid, to render the solution more permanent. This then is the mordant.

The stain is prepared by dissolving 4 or 5 grammes of the dye to be used, preferably fuchsin, in 100 c.c. of a saturated solution of aniline oil in water, to which 1 c.c. of a one per cent. solution of sodium hydrate has been added. This solution is quite permanent, but must be filtered before using.

Having now both mordant and stain, we proceed to employ them according to the following method: The material to be examined is dried on a cover-glass, and fixed by passing through the flame in the usual way. A few drops of the mordant are then added, and gently heated until steam begins to rise. The mordant is then carefully washed off with distilled water, and the stain is added, and heat applied as before. After a few moments the specimen is again washed, and is then ready for examination.

By this method Loeffler has succeeded in staining cilia on all the true spirals, on the comma bacilli of Koch, and of Finkler and Prior, on the mobile micrococcus recently described by Ali Cohen, and on a large number of mobile bacilli. The typhoid bacillus, however, resisted all attempts to stain its cilia. The stain is also well adapted to the staining of micro-organisms in tissues, but is then employed without the mordant.

The drawback to the general use of this method is the intensity with which all albuminous material is stained, often obscuring the bacteria when much is present. To avoid this, bacteria taken from bouillon cultures or from gelatine tubes should be first mixed with a few drops of distilled water to dilute the albuminous bodies present, and a small drop of this then taken for examination.

The specimen which I have is a mixture of many species of bacteria which grew in a hay infusion. There are many bacilli of various sizes, and besides these there are many spirals belonging to the species spirillum undula. On the ends of these may be seen cilia, sometimes single, sometimes in small bunches of five or six. Seeing these it is easy to account for the rapid motion of this spiral through the water of the hay infusion. Many of the bacilli in the specimen also show cilia, but these are much smaller and more difficult to see. While the cilia in the spirillum are straight, in most of the bacilli they are wavy.

As is but natural, very high powers of the microscope are necessary to render these minute structures visible. The specimen which you are examining is magnified one thousand diameters.

Tuberculosis of the Kidney.—DR. H. M. BIGGS presented some specimens with the following history: The

patient was admitted to the Charity Hospital, suffering apparently from gastritis. Examination of the urine at that time showed a small quantity of albumin, but this disappeared later. After having recovered from the gastritis he was found to be still very weak and was on that account retained in the hospital. After a while he was seized with intense headaches, for which he could get no relief, gradually sank, and finally died comatose. At the autopsy acute miliary tuberculosis was found, involving especially the lungs and brain, though a few miliary tubercles were seen in other organs of the body. There was absolutely no trace of any old tuberculous process in the lungs, but there was a perfectly characteristic tuberculous process going on in the left kidney, in which were found some cheesy masses, and destruction of the organ had occurred. The ureter on this side had also apparently been destroyed. The other kidney, the bladder, and other portions of the genito-urinary tract were apparently normal. One bronchial gland was found to be cheesy and calcareous. The case was interesting, especially because of the localization of the process in the genito-urinary tract and of the secondary development of tuberculosis in the lungs. The speaker thought that perhaps years ago this man might have had a very slight tuberculous trouble in the lung from which the infection in the kidney took place. Then, during his stay in the hospital, this last process gave rise to general infection, and acute miliary tuberculosis occurred.

Acute Miliary Tuberculosis of the Peritoneum.—Dr. Biggs showed a second specimen of acute miliary tubercular peritonitis, removed from the body of a woman, who had been admitted to hospital for delirium tremens. It was thought that death might have resulted from a rupture caused by intestinal ulcers, but nothing of the kind was found at the autopsy. There was no tuberculous process found in any other part of the body except one small calcareous nodule, perhaps one-third centimetre in diameter in the lung. There was a very recent acute general miliary tuberculosis of the peritoneum. The speaker did not believe that primary tuberculosis of the peritoneum ever occurred; yet, he said, it was very hard to persuade one's self that the disease could follow such a very small lesion in the lung.

Pancreatic Hemorrhage.—A third specimen shown was one of pancreatic hemorrhage. It had been removed from the body of an unknown man, who had gone into a saloon and taken a few glasses of beer, then went outside and fell down on the sidewalk dead. At the time the autopsy was made there was considerable decomposition present, and nothing could be found except a hemorrhage around the pancreas and a number of minute hemorrhages within the organ. Not much could be determined concerning the changes in the pancreas, because of the degree of decomposition present. The case was one of sudden death, due to pancreatic hemorrhage.

Aneurism of the Basilar Artery.—This specimen was obtained at an autopsy made with Deputy Coroner Jenkins. The patient was a young man, thirty-one years of age, apparently in perfect health, who went to his work one morning as well as usual. After working for about half an hour he complained to the foreman of severe headache and said he would have to stop. He went down to the lower floor of the house in which he was working, lay on the floor, and died almost immediately. At the autopsy there was found a large hemorrhage at the base and over the convexity of the cerebellum. On injection of the vessels of the base there was found a small aneurism at the side of the basilar artery, just before its bifurcation. The case was interesting because of the rarity of these aneurisms in young persons. Some time ago Dr. Biggs saw another case, with a very similar history, in which the same lesion was found at the autopsy. There was absolutely nothing else in either case to cause death. There was nothing to account for the occurrence of the aneurism, and the speaker was inclined to think that it was due to a congenital weakness of the vessel.

Secondary Adeno-Carcinoma of the Lung. — Dr. Frank W. Jackson presented a specimen of this lesion, with the following history:

The patient was a man, thirty-two years of age. He was admitted to the Roosevelt Hospital last July, without a definite diagnosis. For two months he had suffered from dyspeptic symptoms, loss of flesh and strength, night-sweats, and, latterly, marked dyspnœa. He also had pain in his abdomen when he moved. He considered that he had been in perfect health up to two months before, but it was found that his right testicle had been removed one year before. It was enlarged, but he did not know the nature of the enlargement. Some years before he had been operated upon for fistula in ano. There was no other history of previous illness, and his family history was good.

When admitted to the hospital it was evident that he was very sick; he was emaciated and anæmic. His dyspnœa was evident, and he had a slight cough. He was under observation for ten days, during which time he simply grew weaker. He had much dyspnœa, and from time to time expectorated a peculiarly viscid, jelly-like material of a brick-red color. He had hardly any rise of temperature.

His physical signs were interesting. There was moderate dulness over the bases of the lungs behind, the voice and breathing was found to be diminished over the whole chest, and crepitant and subcrepitant râles were heard all over both lungs. There was a large, hard, tender gland just above the left clavicle, and extending down beneath it. In the abdomen there was felt a hard cylindrical mass, just above the umbilicus, lying transversely across the vertebral column and apparently intimately attached to it. The vertebral bodies seemed very prominent, and the tumor seemed to be of the same consistency with the vertebræ. The difficulties of diagnosis were apparent. He looked like a man with phthisis, and his history of fistula in ano, enlarged testicle, and night-sweats pointed in that direction, while the physical signs in his lung were such as might readily go with chronic miliary tuberculosis. He had, however, no temperature, his cough was not severe, and his expectoration was from time to time peculiar in its brick-red color and gelatinous consistency.

Then there was the tumor in the abdomen to be accounted for. Was it a retroperitoneal growth, and was the enlargement of the testicle of a cancerous nature? Or were there phthisis and carcinosis combined? Some light was thrown upon this after a few days, when it was learned that the enlarged testicle had been examined after removal and found to be carcinoma.

The autopsy showed general carcinosis. There was a very large mass lying upon the vertebral column, and extending from the diaphragm into the true pelvis, involving the retroperitoneal glands and including portions of the intestines and the tissues about the kidneys. This was what I had mistaken for the spinal column itself, and the cylindrical tumor was simply a prominent nodule. Both lungs were infiltrated with cancerous nodules, the pleuræ were adherent, and there was a little bloody fluid in the pleural cavities. There was no phthisis.

The microscopic examination of both the growths in the lungs and in the abdomen show these to be adeno-carcinoma.

Fracture of the Skull.—Dr. H. J. Boldt exhibited a patient who had sustained a fracture of the skull from the kick of a horse. The accident occurred last July. The skull was crushed, and on putting the pieces together subsequently, those from the inner table were found to cover an area of something over two inches in diameter, and those from the outer table one of about one inch. The bone was in fourteen fragments, embedded in the dura mater and in the substance of the brain. Considerable oozing of brain tissue took place for some days after the injury. The pieces of bone were jagged, and some were extracted with considerable difficulty. All foreign mat-

ter which could be detected was removed, among other things a piece of a felt hat. There was very profuse bleeding from the nose and ear. There was paralysis of the left side of the face and left upper extremity, but this disappeared in the course of a few weeks, and at present there is remaining only a numbness of three fingers. A piece of the scalp was cut out after the foreign bodies had been removed, in order to give free discharge to any products that might be formed. In all about ten grammes of brain-substance oozed away, after which the scalp was raised and brought together by wire sutures. Dr. Boldt looked upon the hemorrhage as the result of a wound of the dura mater, for he had never seen bleeding from the ear in a case of simple fracture of the vertex without injury to the base. In reply to a question whether there might not have been a fracture of the base, he thought that there was none, for there had been no symptoms of such a condition. The man had been unconscious for about half an hour only.

Dr. Biggs said that it was not very rare to meet with cases of fracture of the base, in which there might be considerable hemorrhage, where the patients remained conscious for some time after the receipt of the injury, or might even not lose consciousness at all, in case the hemorrhage did not continue very long. Not so very long ago he had seen a man who had fallen from his truck, but at first gave no symptoms of any injury whatever. On the following day when he went to get his truck he seemed to be ill, and the foreman told him not to try to drive it that day. The man turned away, walked off the end of a pier, and was drowned. At the autopsy there was found a very extensive fracture of the base of the skull.

Dr. Van Gieson said that it would be interesting to watch this case pretty closely to see whether any symptoms of insanity would develop subsequently. The oozing of brain-matter was from the frontal lobes, and in two or three cases of this kind seen recently a peculiar form of scoffing or mocking insanity had followed the injury.

Fibroid Tumor of the Uterus.—Dr. Boldt then presented a specimen of fibroid tumor of the uterus which he had removed by the combined method. The reason why an operation was performed was that the pains from which the patient suffered could not be relieved in any way except by the continued use of morphine. The abdomen was opened and a ligature placed around the pedicle of the tumor, and the latter was then cut off above the ligature. After this the uterus was removed by vaginal hysterectomy. The speaker much preferred this combined method, believing it to be safer, as it removed the danger of infection from the stump.

The Society then went into executive session.

Heart-failure Cells.—In a recent article in the *Deutsches Archiv für klin. Med.* (October, 1889), Professor Hoffmann calls attention to the significance, from a clinical stand-point, of certain cells, to which he has given the above name, occurring in the sputum in cases of mitral disease, myocarditis, and pericarditis. These cells are distinguished by their size, more or less oval form, and beautiful balloon-shaped nucleus, but more especially by containing yellow, yellowish-brown, or even black pigment. They resemble in all points the desquamated epithelium of the alveoli, and are characterized by their pigment shading yellow to brown. Hoffmann regards the "heart-failure cells" as desquamated alveolar epithelium, and considers their presence in the expectoration as a sign that brown induration of the lung is present. Professor Sommerhardt refers their origin to proliferation of alveolar epithelial cells, which swell up and absorb the red blood-corpuscles extravasated into the lumen of the alveoli, becoming ultimately pigmented by the alteration of the corpuscular coloring matter. Hoffmann maintains, however, that in the lung in heart-failure these cells are derived from those under the epithelial covering, and obtain their pigment partly by diapedesis, partly by capillary hemorrhages into the lung-tissue.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE CURABILITY AND PREVENTABILITY OF PHTHISIS—ANALOGIES BETWEEN PHTHISIS AND LEPROSY—THE DESIRABILITY OF OPERATING FOR FISTULA IN PHTHISICAL PATIENTS—THE PROPOSED RECONSTRUCTION OF THE UNIVERSITY OF LONDON—SIR MORELL MACKENZIE'S LIBEL ACTIONS—SIR RICHARD OWEN.

London, March 5, 1890.

Dr. Arthur Ransome has selected "The Etiology and Prevention of Phthisis" as the subject of the Milroy Lectures now in course of delivery at the College of Physicians. In his first lecture he struck an encouraging note both as to the preventability and curability of phthisis. Various published observations were quoted in proof of the curability of phthisis; among these were some post-mortem statistics by Dr. Harris, of Manchester, who had found evidence of cured phthisis in thirty-nine per cent. of the necropsies at the Manchester Royal Infirmary. The returns of the Registrar-General showed that the mortality from the disease had largely diminished within the last thirty years. A similar improvement was observable in other countries, in proof of which Dr. Ransome quoted some statistics from Dr. Flint respecting phthisis in Massachusetts in 1857 and 1883. Referring to the bacillus of tubercle, Dr. Ransome said we must acknowledge that, whatever its mode of working, it was the specific cause of the disease. The constant association of the bacillus with the lesions of phthisis by no means excluded the possibility, often insisted on, of the secretion or production by the bacilli of certain unorganized morbific materials. Thus Neucki had separated a tetanizing poison from the bacilli, and Bonardi had demonstrated the presence in tuberculous sputum of certain organic bases which caused disturbance of the nervous system when introduced into rats and guinea-pigs. The bacillus could only be successfully cultivated within a very small range of temperature (between 86° and 107° F.) and required from two to three weeks for its development. It was very tenacious of life in sputum, the bacilli having been found virulent after one hundred and eighty-six days in sputum dried at ordinary temperatures; but there were observations tending to show that the bacillus has a short life within the body, and can only maintain its presence for any length of time by the appearance of new generations to fill the places of the dying! The mode in which the disease gained access to the body was noted long before Koch's time, the points of attack indicating that the infection came from without the body. The demonstration by Koch of an organism that must in most cases come from the air, and that could in this way penetrate the lungs, or enter the lymphatics by sores, only served to make assurance doubly sure.

An important result of Koch's discovery was that it placed tuberculosis undoubtedly among the class of microbic diseases. It had even been suggested that tubercle in its acute forms might become epidemic, but this view was hardly supported by facts. Tubercle could only be said to be allied to ordinary epidemic diseases in the sense that they were all parasitic disorders, and it might rather be regarded, like leprosy, as a type of an endemic disease. It by no means followed, however, that a disease need be contagious or epidemic because it was derived from without the body, and because it afterward travelled infectively along the channels of absorption or of circulation. Although infective it need not be infectious, and might be incapable of being conveyed directly from the body of one patient to that of another. Whether contagious or not, phthisis was sharply marked off from ordinary exanthematous disorders, not only by its specific micro-organism and its endemic habit, but also by its usually slow and creeping and irregular course, and by

the permanent growths and alteration of structure and destruction of tissue brought about by the bacillus. In searching for diseases kindred to tubercle we must look for those which were chronic, endemic, irregular in their course, and produced by the action of a micro-organism which had comparatively feeble power of irritation, but which, nevertheless, brought about inflammatory action tending to produce permanent changes and necrosis of the tissues, and travelling along the track of the lymphatics or in the current of the blood. Chronic glanders or farcy and actinomycosis had many features in common with tubercular disease. But the closest resemblances were to be found between tubercle, syphilis, and leprosy. The nearest approach to tubercle was to be found in leprosy. A micro-organism was closely associated with each disease, and the bacilli were so alike that the most accomplished bacteriologist could find little or no difference. Leprosy was like tubercle in its mode of attack, the entrance of the virus taking place at the most exposed parts of the body. Leprosy was very slow in its progress, and often with long intervals of latency, in this respect also resembling tubercle. The pathology of the two diseases was also strikingly similar. Both were distinctly endemic diseases and had been found in almost every country where human beings were collected together in any number. They were equally uninfluenced by climate and temperature. As phthisis is now, so leprosy was, formerly, endemic, not only in Asia and Africa, but also throughout Europe. Precisely the same controversy as was now waged with regard to phthisis was carried on as to the contagiousness of leprosy. It was not surprising that the question should be asked, as it was by Danielssen, whether leprosy was not itself a tuberculous disease? Dr. Ransome thought, however, that we could not allow ourselves to be led into affirming the identity of the two affections, as there were points of difference. The resemblances, however, which the bacillus of tubercle bore to the bacillus of leprosy might encourage us to hope that as this latter disease had been banished from our country, so also might tubercle ultimately disappear.

At the last meeting of the Medical Society a discussion took place on the desirability of operating for fistula in phthisical subjects. Mr. Herbert Allingham read a paper on the subject in which, while deprecating operations in cases of acute phthisis, he urged that in other cases operative treatment might prove useful if undertaken with proper care in the selection of time and place. Dr. Theodore Williams said he thought the existence of a discharge was rather beneficial than otherwise when it was not excessive in quantity; he would only advise operation in cases where the fistula gave rise to pain or worry. Mr. Marmaduke Sheild said that in order to secure healthy surfaces it was necessary to scrape the edges of the fistula when opened out; without this, healing would probably not take place. Precautions must also be taken to avoid the infection of the raw surfaces by tubercular matter. Mr. Harrison Cripps suggested dilatation of the narrowed external orifice of the fistula. He thought ether was not a desirable anæsthetic to use when operating on phthisical subjects, as it was calculated to light up dormant mischief in the lungs. Dr. Lowe recommended the immediate ligature of fistulæ. Mr. Taylor said he had only observed fistula as a complication of phthisis in one per cent. of the cases at Brompton Hospital. He thought these fistulæ seldom called for operation, but he would not be deterred from operating through any apprehension of inducing an increase in the lung symptoms. He had seen great benefit follow the removal of diseased limbs and joints, and he could not see why the same should not hold good in the case of fistulæ. Mr. Herbert Allingham, in replying, said he had seen marked improvement in the general condition follow operation in these cases.

The proposed reconstitution of the University of London is still in a somewhat nebulous condition. Fresh proposals continue to be put forward. The latest is, that (for the medical degrees) the examinations in arts and science should be conducted by the university as at present, but that the professional examinations of the Conjoint Examining Board (of the Colleges of Physicians and Surgeons) should be accepted in lieu of the present University examinations for the M.B. degree (Bachelor of Medicine). This implies a considerable lowering of the standard, especially if the system in vogue at the Conjoint Board (of allowing the examinations to be passed piecemeal) is continued, and is certain to be resisted strenuously by the present graduates.

Sir Morell Mackenzie's actions for libel against Mr. Steinkopf and *The Times* have terminated in his favor. Mr. Steinkopf has to pay fifteen hundred pounds as damages, and *The Times* has to pay two hundred and fifty pounds.

Sir Richard Owen, the eminent biologist, is dangerously ill.

OUR PARIS LETTER.

(From our Special Correspondent.)

TREATMENT OF PHTHISIS BY FRESH AIR—ELECTRICAL TREATMENT OF UTERINE FIBROMATA.

PARIS, March 7, 1890.

DR. DUJARDIN-BEAUMETZ read a report on a work by Dr. Nicaise, at the last meeting of the Academy of Medicine, in support of his candidateship as a member of that learned body, the subject of the work being the treatment of phthisis by the permanent aëration of the dwellings occupied by phthisical patients, particularly the rooms in which they sleep, and which is effected by keeping the windows constantly ajar, even in winter, measures being at the same time taken to prevent the patients being cold. Dr. Dettweiler has proved that phthisical patients can live in the open air. In the establishment at Falkenstein, of an altitude of one thousand three hundred and twelve feet, in the midst of woods, the phthisical patients pass their time in the open air in all seasons. The results obtained are very favorable. It is reckoned that there are twenty-five per cent. of absolute cures and twenty-seven per cent. of relative cures. Aëration is therefore very useful for tuberculous subjects. The researches of Dr. Nicaise have shown that at Carabaul a room with a southern aspect and a temperature which at sunset was 14° C., the window having been left wide open all day, could be maintained at about 10° C. during the night, even when the temperature of the exterior fell to 2° C., if the shutters were closed and if the window were left ajar about thirty or forty centimetres. In these conditions the aëration of the room, which was provided with a chimney, was perfect, and the temperature very acceptable provided that the patient is warmly covered in his bed. These points are very important. It is true that the air respired by tuberculous subjects does not contain bacilli, but with them, as with healthy subjects, the expired air contains irrespirable gases; and the researches of MM. Brown-Séquard and d'Arsonval have shown the existence of volatile products and of toxines. These substances are dangerous to breathe; they end by accumulating in the rooms where the aëration is imperfect; it is therefore very important to get rid of them. Dr. Dujardin Beaumetz thinks that it will be good practice to accustom phthisical patients gradually to live in an atmosphere properly renewed, which may be effected by certain arrangements which should not inconvenience the inmates. He adds that the non-success of specific medications in tuberculosis should engage us to ameliorate the hygiene of tuberculous subjects. To procure them proper aëration would be a real progress; but this must not be considered sufficient, and he concludes his report by insisting on the necessity of associating to the hygienic means a rational pharmaceutical treatment. The Academy voted the conclusions of the report, and thanks were addressed to Dr. Nicaise for his

important memoir, which will be deposited in the archives of the Academy.

With reference to the discussion that took place a short time ago at the Société de Chirurgie on the electrical treatment of uterine fibromata compared with the other methods, the system adopted by Dr. Apostoli was put in opposition to the modification introduced by Dr. Danion in conjunction with Dr. Lucas-Championnière. It will be recollected that Dr. Apostoli's method was severely criticised, particularly owing to the unnecessarily high intensities employed by this gynecologist, which are considered highly dangerous. Dr. Danion has again brought the subject to the notice of the Academy of Medicine, and the following are the conclusions of his very interesting paper: That the treatment of uterine fibromata by high intensities or by the galvanic puncture, as practised by Dr. Apostoli and his partisans, are subject to several objections: the method is painful, several accidents have been observed, and the application difficult and delicate. For several years the author sought a more simple method. He believes he has found one. He employs a tampon of amadou covered over with a leaf of India-rubber, except at one of its extremities, where a hole is made in the India-rubber about the size of half or one centimetre. The tampon is dipped into a solution of salt, and a platinum needle is passed through it and is thus connected with the battery. The tampon is then introduced into the vagina, exactly in the place chosen. A current of from 80 to 100 milliampères, and one might go to from 120 to 130 milliampères. It is necessary to reverse the current several times. Twenty of the most striking observations collated in the service of Dr. Lucas-Championnière permit the author to affirm the excellence of his method, in all cases, without its presenting the least danger. He remarks that, in this way, owing to the reversal of the current, the poles act indifferently. That with this method the presence of cysts or of lesions of the uterine annexes is never the occasion of the slightest accident. That the immediate effects on the symptoms are much more rapid than with the intra-uterine action and punctures, or even intra-cervical action, which appears due to the absence of all reaction, and that the reduction of size, incomparably more rapid and more considerable, which is observed, ought to be attributed to the reversals combined with the absence of all caustic action. That, with the exception of complications in the annexes, failures are absolutely exceptional. That it may be positively affirmed that the method of the electric tampon and of the reversed currents, by its simplicity, its power of action, and its absolute innocuousness, realizes a considerable progress. That in all cases, without exception, in which surgical intervention can be dispensed with, this method should be, preferably, employed in the treatment of uterine fibromata.

SOME OF THE SANITARY NEEDS OF JAPAN.

To the Editor of the Medical Record.

Sir: In a recent letter to Dr. Page, late chairman of the Academy Section on Practice, in alluding to an admirable article read before it by the late Dr. Cocks, entitled "Eye Symptoms as Aids to Diagnosis," I referred to two symptoms observed and verified in my Japanese experience, viz., inability of closure or adjustment of ciliary surfaces of the eyelids, from tubercular œdema; and deposition of brown pigment on the sclerotica—both initial symptoms of leprosy so constantly noted in the relation, as to be looked on with suspicion by the common people even.

The late Dr. Sato, of native hospital experience and reputation exceptionally and deservedly high, first brought them to my professional attention, and I, afterward, had frequent opportunity to verify his conclusion regarding them.

Dr. Page has suggested that I write you of these observations.

And here, let me refer briefly to your editorial in the issue of March 8th, entitled "The History of Modern Medicine in Japan."

The influence of European medicine through the Portuguese navigators, or Spanish Jesuits, was never lost to Japan, as stated by Dr. Nagayo. All knowledge of medicine in Japan, as in China, before the wisdom of publication even was perceived, being handed down, in a free-masonry of medicine, from preceptor or teacher to favorite pupils; the secrecy of medical knowledge being held inviolate.

After the expulsion or massacre of the Christians, for their attempt to subvert the power of the Mikado's religious dominion, their European knowledge remained to temper the old Chinese and Japanese system. I think the Holland or Dutch influence antedated the Portuguese; at any rate it preceded the date, 1750 A.D., to which Dr. Nagayo refers. At this date (1750) there were no "treaty-ports." Japan, after the expulsion of the Jesuits, was a closed kingdom, till re opened by Commodore Perry's advent.

In the schools of Tokio, at the time of my arrival in the country, German medical influence was in the ascendancy, French military teaching, and English engineering teaching, commanding respective supremacy.

The ability of Japanese medical men is greatly underrated by Europeans and Americans. They are of superior acumen as diagnosticians and therapeutists, but their surgical skill is not so able, for the reason that Japanese vocations do not result in many accidents. The surgery of Japan is not immediate but secondary to diseases, mostly of genito-urinary or venereal origin.

Diseases of the eye are manifold and wide-spread, the result of[1] frequent "sand-storms" from across the bays along the coast,' and from small-pox.

Virulent small-pox has been ever constant in Japan, but seemingly not as fatal as with us; as most all persons to be met on the streets and in public places are terribly pitted and scarred, showing recovery from severer confluent forms. The Japanese do not fear small-pox as we do. In 1874, during an epidemic in the city of Tokio, the streets and stores were full of walking cases; a confectioner waited on me personally, in one of the stores on the principal street ("Ginza") of Tokio, who had a delicious type of the disease, in its umbilical stage.

Eye surgery of Japan is very inferior. Many cataract extractions and iridectomies being incompetently per formed.

Blindness is abundant, from the three causes and their results, viz., small-pox, sand-storms, and incompetent treatment.

Influenza is common during the peculiar weather or meteorological conditions attending the earthquake season, just preceding the spring and fall exhilarating monsoons.

To-day medical teaching in Japan is wholly modern, and vast strides are being made to catch or surpass us. I cannot agree, however, with Dr. Nagayo, that it is reserved for his country "to unravel the truths of creation." It must first unravel problems belonging especially to his "Sanitary Bureau"—for example: 1. The supply of pure drinking-water through impervious pipes, to the people of Tokio, and the prevention of its contamination from public urinals and night-filth. 2. Medical supervision of its fish supply, which is brought to Tokio, in ship loads, and dumped in huge piles on uncovered wharves, exposed to sun and weather, poisonous and non-poisonous kinds mixed together, although afterward sorted. 3. Other disposition of its night-filth, than its carriage in buckets on men's shoulders, through the streets in daytime, to open boats moored in the canals, and to be scattered broadcast over its widely distributed rice-fields, with consequent poisoning of all the streams and drinking-wells in the whole country. 4. A mode of conveyance other than the man carriage, or "jinrickisha," thousands upon thousands of

[1] The Japanese are coast dwellers mainly.

which are used in Tokio alone, with resulting fatal heart disease in a few years, at the longest, to the poor men who earn a livelihood by running them. 5. Medical supervision or inspection of the vast system of public hot baths, to separate the diseased from the well, and for the more frequent renewal of the supply of water than is now done. The abolishment of the insidious charcoal stove from the houses of the Japanese, with its resulting poisoning by inhalation of carbonic acid gas. 6. Sanitary inspection of the sinking of wells for drinking-water in the crowded parts of the city and country, through a soil reeking with population filth.[1] 7. The filling up of the old central castle moats in Tokio (sixty miles in extent), now but swamp-pools of malarial infection and decaying lotus débris.

Until these sanitary improvements are instituted in Japan, there will be *no* "unravelling of the truths of creation."

Yours, very sincerely,

ALBERT S. ASHMEAD, M.D.,
Late Foreign Medical Director, Tokio-fu Hospital.

TOKIO, JAPAN.

IN FAVOR OF HOME PRODUCTION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The clinical study by H. H. Spiers, M.D., in your issue of the 22d ultimo, was very interesting to me. I hope to find more of such practical productions in your columns. Strike out a few of the long-winded articles, or compilations, with a thousand and one foot-note references, by eminent (?) specialists. I think writers are too prone to ape the foreign—let them mix in a little of the American. Yours, truly,

X., M.D.

MONTANA, March 4, 1890.

ADVERTISING THROUGH A CHARITY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Premising that I have not felt, in all the years I have been at work, the necessity for subscribing to any other journal than yours, I beg to say that "superfœtation" in your article on "—— Hospital Reports," page 275, just describes the situation. They are, indeed, only advertisements, ostensibly of the "Great Behemoth," but essentially and practically of those, and only in the interest of those, who had the fortune to cause themselves to be "called" to form its bone and marrow! The advertisements of the Johns Hopkins are on public sale in Baltimore continuously, and as anybody can purchase them, there can be no question but that they make the usual impression on those whom the selected few desire to reach, irrespective of the Code of Ethics as well as any other legitimate obligation they might or should have toward the brethren of their profession. Merchants and other business men are only too happy to have their "ads" noticed; but in the case of the Johns Hopkins University the public cheerfully pays all expenses, reads the "ads," and swallows them down as pure gospel, having no thought that possibly the surprising feats therein depicted, to which general attention had not previously been so pointedly called, might still be accomplished, or have been before, by many humbler medical men who owe their living to personal merit rather than to the tacit backing of a great name and corporation, and, perchance, with more satisfactory results. For my own part, I am so far away from the Hopkins Hospital that I have never seen it, and don't want to, but, in the absence of more positive knowledge, suppose it attends to its own business, as any honest person would, according to its own conscience, if it has any—if it has not, it is sure to cut a wide swath with one inevitable result.

Respectfully yours,

B. F. GROVE, M.D.

[1] All of the roads of the country are but part of a huge city, being crowded nearly as closely as the cities.

THE LATE DR. CHARLES McMILLAN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I had hoped to see a more extended notice of Dr. Charles McMillan than a bare announcement of his death, and have waited for some of his army friends to do justice to an old comrade before attempting it myself.

Dr. McMillan was the son of a physician, and was born in Conesus, Livingston County, about 1824. His family and mine were pioneers in that lovely part of the country. I first knew him as a bright, manly boy at Temple Hill Academy, in Geneseo, and since then our friendship was unbroken. We became students of medicine about the same time, and graduated in New York in 1849; 1851 found us together in an office at No. 310 West Twenty-third Street. Dr. McMillan soon afterward removed to Fordham, and was there a busy practitioner when the war broke out in 1861. Some may yet remember the Twenty second Regiment, among the first to respond to the call of President Lincoln, as it marched splendidly down Broadway, with Dr. McMillan as its surgeon. At the close of the three months' volunteer service he was made brigade surgeon, and was attached to General Hunt's staff in the Peninsular campaign under McClellan.

I shall always remember his graphic description of the battle of Malvern Hill. He was at Chattanooga, and saw the battle above the clouds. Later on he was at Vicksburg a short time as Medical Director for General Grant, and held the same office for a longer period under General Sherman. I still have photographs of those then rising commanders, with the autograph of General Sherman, which Dr. McMillan brought to me when he came home on leave, before Vicksburg was taken. After the war he was Consul-General for Italy, and lived several years in Rome. Upon his return to his native land he took up his residence in Washington, and when he died was connected with the Pension Office.

His widow survives him in her home in Washington.

Yours, sincerely,

J. R. LEAMING, M.D.

NEW YORK, March 20, 1890.

ANTISEPTICS AND THE COUNTRY DOCTORS AGAIN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: After five weeks of the worst railroad blockade ever known in this country, during which time there were no mails at all, my back numbers of the RECORD are before me. I find in your issue of January 18th, that I am brought up, or rather rounded up, by a gentleman who hails from the classic village of Oshkosh, Wis., who endeavors to prove my ignorance simply by echoing many things that have been said and written a thousand times before. I write from my personal experience chiefly, while the Oshkosh brother writes from his imagination. He says I claim "to voice the sentiments of the country doctors in general," which he denies. Since writing the article which called forth his reply, I have received letters from Indiana, Rhode Island, Maine, Wisconsin, Minnesota, and from other sections of the country, endorsing my opinions and congratulating me. Dr. Kemper, of Muncie, Ind., writes that he has attended nine hundred cases of obstetrics and has never used antiseptics in the strict sense of the term, and has only had three deaths. I would like to see better results than these anywhere. A gentleman from Maine writes me that the profession is insane on the subject. Another from Rhode Island writes me to keep on with the good work. These are only a few samples of the letters I have received. I also see that the article was reprinted in *Practice* almost entire. So much for the sentiment of the profession in the country. The fact that I have read the RECORD for thirteen years constantly is sufficient evidence that I take it for instruction and not for amusement, as

the brother infers. Of course, the skilful use of the curette can be acquired at Oshkosh better than in the country. To belittle a thing or ridicule it, is not argument. I know that many of the profession in the cities think they are much superior to the country doctor in skill and brains; however, let that pass. Anyone who reads the journals will remember occasionally to have seen the statement, "patient died with symptoms of sublimate poisoning," or carbolic acid poisoning, or iodoform poisoning, etc. Now, it is much more in the line of human nature to record successes than failures, and it is not too much to infer that, for every case of antiseptic poisoning that is recorded, there are one hundred cases that never see the light of day. No, there are no statistics of death from antiseptic poisoning kept. The statistics would be too painful to contemplate. My friend would like to know how many times I have obtained primary union in amputations of extremities. I think my first communication answers his question, but will state that in the last amputation I performed, union occurred primarily, with only a little serous discharge, which was odorless, and there was no inflammation or gaping of the wound nor constitutional disturbance whatever. It was an amputation through the upper third of the humerus for a railroad injury. I kept the flaps open until all oozing had ceased and the surfaces were covered with lymph, I then closed them and put in the sutures, and used carbolized vaseline as a dressing. Strict cleanliness was observed, both as to hands and instruments. In a town of two thousand people, a doctor does not have many capital operations to perform. I expect definite results when I amputate, if the condition of the patient is such as to warrant the expectation. I would like to ask the friend from Oshkosh how many times he has operated for osteomyelitis by the Shade or Senn method, and had complete recovery in a few weeks? I am afraid he has never operated by any method, and consequently, cannot judge from a personal experience whether it takes weeks or months to make a recovery. I am expected to class myself as a "back number," according to the ideas of this Oshkosh luminary; but I will leave that to the opinions of the readers of the RECORD.

It is indeed refreshing that no allusion has been made to the Tait "chestnut," as he calls the opinion of the great master of abdominal surgery. I am glad that this much of my article meets with his approbation, but I am compelled to give him a new "chestnut" to nibble on, and I hope he will not get the burr of it under his crupper, as he might kick then more than he does now. George G. Bantock (*Medical Analectic and Epitome* for January, 1890) reports a series of four hundred cases of ovariotomy performed by himself, and expresses the following opinions: Antiseptics are unequivocally denounced as being dangerous. Strict cleanliness is insisted upon. Plain water, not even boiled, is the only fluid used in the operation, and the abdominal cavity is perfectly cleaned out and kept so. His first series of 100 cases, performed with strict antisepsis, 19 deaths; 2d, 100 cases, Listerism being gradually abandoned, 14 deaths; 3d, 100 cases, plain water only was used, 8 deaths; 4th, 100 cases, water only, 4 deaths. In the Samaritan Free Hospital, the same operator did not lose one patient out of ninety cases operated on without antiseptics, during three years and a half, while during the same time the mortality under the Listerian method was twelve per cent. Now, I will make the assertion that not one doctor in five hundred uses the antiseptic system unless he is attached to some large hospital. It has been also proved that to kill microbes in the weakest antiseptic solutions compatible with the vitality of the living tissues, takes from one to six hours; how, then, is the irrigation of a wound for a few minutes with antiseptics going to have any effect, other than to irritate?

Echo cannot answer this question, but perhaps this son of Oshkosh can. In conclusion, Mr. Editor, I would like to ask why, if antiseptics are useless and dangerous to use in abdominal operations—the severest and most difficult ones in all surgery—why are they not equally useless and senseless in the medium and minor operations?

F. W. VAN DYKE, M.D.

GRANT'S PASS, ORE., March 1, 1890.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 22, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	10	5
Scarlet fever	68	12
Cerebro-spinal meningitis	2	0
Measles	163	11
Diphtheria	96	28
Small-pox	0	0
Varicella	10	0
Cholera	0	0

Neumann on Hereditary Syphilis.—From an elaborate study of this subject, based on 261 cases, Professor J. Neumann, of Vienna, has arrived at the following conclusions (*The London Medical Recorder*): 1. A syphilitic mother is capable in every stage of the disease of transmitting it to her offspring, no matter whether she has been infected before or after conception. 2. Syphilis acquired by the mother after conception sometimes passes to the fœtus, but this very rarely happens when the mother's infection has taken place in the last months of pregnancy. 3. If the mother be infected after conception, the father having been syphilitic at the time of procreation, the effect on the offspring is much more severe, the child either dying *in utero* or being born with syphilis. 4. In syphilis acquired by a mother after conception, the state of health of the father at the time of procreation being unknown, the situation is the same as when the syphilis is obviously post conceptional. 5. When infection and conception occur together, half the children die. At the same time it must be remarked that a large number of children remain free from syphilis, although that disease may have been in activity in both parents at the time of conception. 6. When infection precedes conception, the period at which the latter takes place is the first point for consideration. The longer the interval between infection and conception the more favorable is the prognosis as regards the offspring. An energetic mercurial course has always a good effect; for example, among the author's cases, even when infection and conception had occurred simultaneously, there were healthy children when the parents had undergone treatment by mercurial inunction. 7. The chances for escape for the offspring are greatest when the mother has acquired syphilis during pregnancy, especially during the later months, and the father was healthy at the time of procreation. On the other hand, the chances of escape are least when conception and infection have occurred at the same time, or when the father suffers from recent syphilis at the time of procreation. Of the fatal cases observed by the author, most come under the headings of "Conception and infection simultaneous," and "Post-conceptional from a syphilitic father." 8. The dangers of paternal syphilis are well shown by certain cases in which the father was syphilitic at the time of procreation, the mother only having become infected after conception, and in which a macerated fœtus was born prematurely. This is contrary to what was taught by Boeck and Oewre, who were of opinion that the child of a syphilitic father is healthy. 9. The observations to the effect that mothers infected during the later months of pregnancy usually bear healthy children seem to show that the practice of

bringing on premature labor, recommended by Oewre and other authors, is not only unnecessary but detrimental. 10. That tertiary syphilis does not cause sterility in a woman is a fact that need only be mentioned. 11. Experience has shown that a protracted course of mercurial treatment, as recommended by Hutchinson, has a favorable effect on the health of the offspring. 12. The author cannot, however, agree with Hutchinson that it is unimportant as regards the intensity of the disease in the child whether one or both of the parents were syphilitic at the time of conception. Out of forty-one of the author's cases, in which conception and infection took place at the same time, only fourteen children were healthy.

The Sweat of Phthisical Patients contains tubercle bacilli and is contagious, according to the experiments of Dr. Eugenio de' Mattei. The bacilli are not exuded from the skin, however, but get upon the skin and so into the sweat, from dried sputum.

Influenza or Dengue.—After discussing the question of the identity of influenza with dengue, Proust sums up his remarks by saying that the epidemic of influenza prevailing at Paris does not present all the classic and ordinary characters of the grippe as they are usually observed; but that it does not, on the other hand, exhibit the *ensemble* of symptoms of dengue as described by physicians who see it in the countries where it prevails. The epidemic is certainly the same affection which now exists at St. Petersburg, Berlin, Rome, and Madrid. It is remarkable for the short duration, as well as for the benignity of the symptoms attending it. In discussing this question, which has been repeatedly raised regarding the present epidemic, Limarkis, who, living in Constantinople, has had ample opportunities to see both diseases, gives a series of differential symptoms. These, arranged in tabular form, are as follows:

	Dengue.	Influenza.
Localization:	Hot countries.	All climates.
Duration of an epidemic:	Three to five months.	About one and a half month.
Spread:	Slowly, from small foci.	Rapidly, attacking large districts simultaneously.
Commencement of the disease:	Always sudden.	Almost always sudden.
Fever:	Always very high.	Not always very high.
Nervous system:	Prostration, pain in the head and limbs.	The same.
Larynx and trachea:	Seldom attacked.	Always attacked.
Dyspnœa:	Never.	Common.
Gastric symptoms:	Always; violent, persistent.	May be absent.
Eruption:	Always; beginning in the face, descending, erythematous, ending in desquamation.	Rare, irregular.
Headache:	Sensation of external pressure; iron hoop.	Violent, internal, often neuralgic pain.
Complications:	Rare; of heart, liver, and kidneys.	Common; bronchioles and lungs.
Convalescence:	Very slow.	Usually rapid.
Prognosis:	Always favorable.	Often occurs in malignant forms.
Attacking animals:	Dogs, cats.	Horses.

Still further proof that influenza is not a form of dengue modified by climate is the fact that the former occurs in hot countries in exactly the same form as in Northern Europe, and that the two diseases have just appeared in Constantinople, the one shortly after the other.—*The American Journal of the Medical Sciences*, March, 1890.

Some Startling Professional Statistics.—According to the Berlin correspondent of the *Medical Press* it will be remembered that last year the *Deutscher Aerztebund* felt it to be its duty to warn the guardians of young men, through the gymnasiums, against entering the profession of medicine, the state of overcrowding being so great as to insure disastrous consequences. Such a warning has not yet had time to make itself felt statistically, and again a considerable increase in the ranks of the profession is to be recorded. At the end of 1888 the number reached a total of 17,690, while the close of 1889 saw it swollen to 18,467, showing an increase of 4.4 per cent. The distribution of these is a matter of some interest. This follows not only density of population, but also the social condition. Where the population is better off a larger proportion of medical men is supported. Numerous calculations have been made with the figures given, one giving the number per 1,000 of inhabitants in the various provinces and departments, and another the number per 100 square kilometres, and so on. In the whole empire the number per 10,000 of population is 3.92, against 3.60 in 1887. In Hamburg the number is 6.61 per 10,000; in Lubeck, 5.91; in Mecklenburg-Strelitz, 5.90; in Bremen, 4.47; in Hessen, 4.93; in Brunswick, 4.80; in Baden, 4.77; in Saxony, 4.18; in Bavaria, 4.12; in Prussia, 3.74; in Alsace-Lorraine, 3.67; in Würtemberg, 3.39; and in Berlin, 9.32. Among the German provinces Hesse-Nassau heads the list with 3.44 per 10,000, then comes Schleswig-Holstein with 4.28; Hanover with 4.15; Rhineland, 3.88; Saxony, 3.71; Westphalia, 3.50; Brandenburg, 3.21; Pomerania, 3.08; Silesia, 3.02; West Prussia, 2.35; East Prussia, 2.32; and Posen with 2.20 per 10,000 of population. As regards Regierungsbezirken or Government districts, Wiesbaden stands highest with 6.78, and Gumbinnen, in East Prussia, the lowest with 1.59. During the year the mortality among medical men was 2 per cent., as against 2.68 per cent. the year before, being somewhat higher in country districts than in towns, as shown by the fact that among 3,707 medical men practising in forty-six of the larger cities of Germany there were 60 deaths, equal to 1.6 per cent. As medical men in commencing practice, or settling down, are obliged to notify such a fact to the authorities it is not so difficult to follow their movements as in some places. In Prussia there are 10,667 medical men, of whom 800 changed their residences during the year 1889; 150 of them performed the operation twice. In Berlin 113 medical men settled in practice during the year, of whom 17 did not meet with sufficient success to warrant their remaining. In Breslau 29 settled down, and 7 of them left again before the year was out; 13 settled in Cologne, 10 of whom were remaining at the end of the year. In Magdeburg one practitioner died, and eight others came in his place, and were still persevering at the close of the year. It may interest the curious to learn that in Prussia, during the year, three professors were nominated in the medical faculty, five Geheime Medizinalräthe (Privy Medical Councillors), twenty-one Geh. Sanitätsräthe (Privy Sanitary Councillors), and seventy-seven Sanitätsräthe (Sanitary Councillors). The Councillors and Privy Councillors are in the great majority of instances mere empty titles, possibly analogous to your own Q. C., but not the less object of desire on that account.

Universities of the World.—Norway has 1 university, 46 professors and 880 students; France has 1 university, 180 professors and 9,300 students; Belgium has 4 universities, 88 professors and 2,400 students; Holland has 4 universities, 80 professors and 1,600 students; Portugal has 1 university, 40 professors and 1,300 students; Italy has 17 universities, 600 professors and 11,140 students; Sweden has 2 universities, 173 professors and 1,010 students; Switzerland has 3 universities, 90 professors and 2,000 students; Russia has 8 universities, 582 professors and 6,900 students; Denmark has 1 university, 40 professors and 1,400 students; Austria has 10 universities, 1,810 professors and 13,600 students; Spain has 10 universities, 380 professors and 16,200 students; Germany has 21 universities, 1,020 professors and 25,084 students; the United States of America has 360 universities, 4,240 professors and 69,400 students; Great Britain has 11 universities, 334 professors and 13,400 students.

The Cost of Bodies.—A Philadelphia paper states that dead bodies can be bought in that city for five dollars apiece, delivered.

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MALIGNANT DISEASE OF THE CORPOREAL ENDOMETRIUM.[1]

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I WOULD offer as an apology for introducing a subject which may not be of general interest to the profession the fact that it is one which has occupied my attention considerably of late, for the reason that I have treated no less than five cases of this somewhat rare affection at the Cancer Hospital during the past six months, and therefore feel as if I could discuss its clinical features by the light of personal experience. I have said that primary malignant disease of the body of the uterus was "somewhat rare," yet, when we remember that no uterine affection is so uncommon that any general practitioner, however limited his opportunities for gynecological work, may not encounter it, and that its early recognition is a matter of vital importance to the patient, it is evident that even this special subject may claim your earnest consideration for a few minutes. It is my purpose to present a brief *résumé* of our existing clinical knowledge with regard to this condition, rather than to enter upon a discussion of its etiology and pathological anatomy.

Under malignant disease of the corporeal endometrium I would include in their relative order of frequency carcinoma, sarcoma, and adenoma. As to the frequency with which they occur I doubt if we can yet speak positively, because of the unfortunate negligence of those who are in a position to add to the statistics. The off-hand statements of specialists who discuss these questions before medical societies are of little or no value from a scientific standpoint, since they are seldom supported by actual anatomical evidence. A man may say, as you read in well-known text-books which I might mention, "I have not found that carcinoma of the body of the uterus is so rare as is generally stated," but this is only his individual opinion, which has little weight in the accurate balance of the statistician. Witness the imperfect data given by such authorities as Barnes and Thomas with regard to the occurrence of uterine cancer, and the discrepancy between the statements of Sir James Simpson that he had met with 1 case of primary carcinoma of the corpus uteri to 15 cases of carcinoma of the cervix, and those of Schroeder, who observed only 1 in 53, and Zukits 1 in 420 (!). Again, Courty stated that he had seen "some 20 cases," when, a year before, Gusserow had only been able to collect from all sources 80 authentic ones, and but 1 had been observed in the Vienna hospital out of 429 cases of uterine cancer. It is useless to try to reconcile these conflicting statements. We are compelled to believe that in many instances the diagnosis was based on clinical symptoms alone, which are often misleading. Recent writers are more careful, so that we can depend more upon their statistics. Thus Williams, in his "Harveian Lectures" for 1886, throws out all cases in which the diagnosis was not confirmed by an actual examination, not of scrapings alone, but of the entire uterus after removal, and of these genuine ones he has seen only 7. Ruge and Veit have examined 21 undoubted specimens of primary cancer of the body. Even Gusserow's latest collection of 122 cases is open to suspicion, as he himself admits.

When we come to the question of the frequency of sarcoma of the corporeal endometrium, statistics are wholly unreliable, since in many such cases the diagnosis is based upon an examination of scrapings alone, or, more often, simply on the gross inspection of material curetted from the uterine cavity. I endeavored to gain some idea of the relative frequency of these two forms of malignant disease by reviewing the entire records of the Woman's Hospital since its foundation, but no definite information was obtained. Among 9,000 patients, 15 cases of carcinoma and 18 of sarcoma of the body of the uterus are recorded, with 23 in which the form of malignant disease is not specified. Now, I know that since my first connection with the hospital, in 1881, the diagnosis was rarely confirmed by an examination of the growth *in situ*. Thus, in a single year eight cases of sarcoma were reported, the diagnosis in every instance being based on the clinical symptoms and microscopical examination of the scrapings. It is extremely difficult to deduce any facts of positive scientific value from hospital statistics, because the records are necessarily uneven by reason of the wide variations in accuracy of observation and statement among the men who make them. That there is little attempt made to differentiate the above-mentioned forms of malignant disease is evident from the following quotation from a recent work on gynecology: "When the body of the uterus is primarily affected with cancer, it is generally in one of two forms, true carcinoma, or, more frequently still, sarcoma, either round-celled or spindle-celled." In spite of the statements of clinical writers, sarcoma of the uterus (and, above all, diffuse round-celled sarcoma of the corporeal endometrium, which we are now considering) is very rare—"so rare," says a conservative writer, "that every carefully observed case which has been authenticated by microscopic examination should be placed on record." Winckel tells us that with his extended opportunities for clinical observation he sought for a case for eight years before he found one, and subsequently has seen but four. Gusserow, up to 1886, had collected only seventy-four cases, including both varieties of sarcoma. These data, furnished by accurate observers, are calculated to make us suspicious of the loose statements of those who would have us believe that they meet with half a dozen cases of sarcoma annually. Not so Goodell; this conscientious teacher admits that he has seen only three cases in which the diagnosis was verified by the microscope. I have certainly examined only two sarcomatous uteri that were removed per vaginam, though I have several times examined scrapings of the endometrium, which in sections presented the microscopical appearances of round-celled sarcoma, the patient having at the same time the symptoms ordinarily referred to the presence of that disease; but no radical operation was done, and the patient subsequently passed from under my observation without my having been able to confirm the diagnosis.

When we come to the third form of malignant disease of the corpus uteri, diffuse recurrent adenoma (*adenoma diffusum malignum*), our statistics are still more imperfect. Several isolated cases are referred to by Winckel, Gusserow, and Schroeder, but no attempt has been made to collect all that have been reported. Few American writers describe the disease, Thomas and Goodell having each met with two cases, in none of which, however, was

[1] Read before the New York State Medical Society, February 3, 1890.

a section of the growth made *in situ*. Mann describes the microscopical appearances in a case of what he terms "villous degeneration of the uterine mucous membrane," the specimen having been removed *post mortem* from a patient of Lusk's. Bertolet (quoted by Goodell) reports a similar case, and Mathews Duncan is credited with two. To these I can add four undoubted cases (two of my own) in all of which I had an opportunity to examine the uterus after it had been removed during life. The specimens were exhibited at the New York Obstetrical Society, two of them on the same evening.

I present this hasty review of the literature of the subject, in order to emphasize the fact that primary malignant disease of the corpus uteri is unquestionably rare, so rare indeed that no careful man will decide that he has a case until he has weighed all the evidence and has had his diagnosis absolutely confirmed by the pathologist, and that only after the latter has examined the entire uterus. The question of etiology need not detain us, for the reason that we know nothing about it. It may be of interest to call attention to the fact that in between twenty and thirty per cent. of the reported cases of malignant disease of the corpus uteri, the patients were sterile, which seems to show that pregnancy and parturition are not active etiological factors. Sarcoma is more common before, and carcinoma and adenoma after, the menopause. In my experience age is an uncertain element in the diagnosis of cancer; the climacteric is a far more important index of the patient's liability to malignant disease.

With the pathological anatomy of these growths you are already sufficiently familiar. Primary cancer of the endometrium has until lately been thought to assume almost invariably the form of epithelioma, which develops from the superficial epithelium, and occurs either as a diffuse infiltration of the endometrium or as circumscribed polypoid masses. More recently, pathologists are coming to the conclusion that malignant adenoma, or its further stage, adeno-carcinoma, which develops from the glandular epithelium, occurs more commonly than was formerly supposed. Into the much-vexed question of the differential diagnosis between simple adenoma and so-called adeno-carcinoma, I shall not enter here, as we are more concerned with the clinical side of the matter. It may be stated that the practical rule will be found to be a good one—to regard as histologically malignant an adenoma which infiltrates the submucous muscular layer, and in sections of which we find, beside the usual glands, nests of epithelial cells showing a well-marked alveolar arrangement.

The gross appearances of primary epithelioma of the corporeal endometrium, as I have observed them, vary according to the stage of the growth. The mucous membrane may be studded with small cauliflower masses, varying in size from a pin's-head to a marble, or there may be a general infiltration of the mucous and submucous layers with a soft, gelatinous material, or, finally, necrotic changes may have produced a general sloughing surface, in and around which are few or no traces of the original growth. Diffuse round-celled sarcoma (we exclude, of course, the interstitial variety) is apt to be softer and more brain-like in character, presents an opaque, grayish—rather a whitish—gelatinoid appearance, is more vascular, infiltrates the deeper layers more slowly than epithelioma, and necrotic changes occur later. But it is impossible to make a macroscopic differentiation between these two varieties of malignant disease; in fact, we often find on microscopical examination that the same specimen presents the characteristic appearances of both, so that Klebs affirms that most of these growths should be described as carcino-sarcoma. The most exquisite specimen of diffuse malignant adenoma of the endometrium which I have seen, or of which I have read, was a uterus removed by Dr. W. Gill Wylie by suprapubic amputation. My description of this will be found in the "Transactions of the New York Obstetrical Society for 1886." The entire corporeal endometrium was transformed into a thick villous growth, which invaded the muscular layer, but showed no evidences of ulceration. It was clearly malignant, clinically, though microscopically it was a pure adenoma, corresponding exactly with Schroeder's description. In my first case the growth was confined to the posterior wall of the uterus, which was generally softened and infiltrated, in fact, I considered that it had already crossed the boundary line and was to be regarded as an adeno-carcinoma; in the second, as also in Dr. Bache Emmet's case, it was strictly circumscribed, being confined to an area the size of half a dollar, and had only begun to invade the submucous tissue. The two latter were described by the pathologist as "papillary adenoma," but undoubtedly belong under the same category as the first two specimens.

I shall not dwell upon the microscopical appearance of these growths, though allusion will be made to them subsequently in discussing the question of diagnosis. For reliable information on this subject I refer you to the paper by Louis Heitzmann, in the *American Journal of Obstetrics* for September, 1887.

Considering how much has been written regarding the symptoms and diagnosis of malignant disease of the interior of the uterus, it would seem as if we possessed sufficiently explicit directions for recognizing even the most doubtful case. In point of fact there is nothing in the whole range of pelvic diagnosis which is more difficult. The classical symptoms of carcinoma and sarcoma of the corpus uteri are pain, hemorrhage, and fetid discharge. The most recent American treatise on diseases of women (Skene's) contains the following misleading statement: "Pain occurs early, and is severe and paroxysmal, sometimes remaining at its pitch for two hours. Intense menorrhagia is soon accompanied by a discharge which is profuse, watery, and fetid. . . . The vital forces are early greatly depreciated, and marked constitutional disturbance is a prominent early symptom of cancer of the corpus." In contrast with this, note the conservative remarks of that able pelvic pathologist, Winckel: "The chief symptoms are hemorrhage, pain, offensive discharge, and emaciation, as in carcinoma of the cervix, though they manifest themselves in a characteristic manner. In the first place, while the discharge of blood is very frequent, it is inconsiderable, and is only a mucus tinged with blood; profuse hemorrhages are rare, a fact which has an obvious explanation in the vascular arrangement of the inner layer of the uterus. The pains, too, are not very severe, even when the disease has made great progress." I do not think that those who have carefully observed several examples of this disease will have any difficulty in deciding which of these strongly contrasted statements is based upon facts. You will see, when I review my cases, that Skene's description fits only such as are in an advanced stage, when the signs are unmistakable. Anybody can recognize a typical case—medical or surgical—but as concerns malignant disease, the recognition often comes too late. It is not enough that the gynecologist should be able to detect its existence at a stage when it is still possible to entirely remove it; the general practitioner is the one who is directly responsible for the vast majority of those mournful inoperable cases, which are referred to us at a time when we can only pronounce them hopeless. I discussed this question thoroughly in a paper on "Early Recognition of Cancer of the Cervix Uteri," which was read by title at the meeting of this Society a year ago, so that I shall not enter upon it here. The point which I wish to make is this: As general practitioners it is your duty to investigate thoroughly every case in which the symptoms are only suspicious, and not to be satisfied until you have, either in person or with the aid of a specialist, absolutely excluded malignant disease.

What are these suspicious symptoms? Not severe, lancinating pain, because that is a later symptom, due either to the exposure of nerve-endings in the deeper layers through ulceration, or, less frequently, to accompanying

peritonitis; not an offensive discharge, because this, too, marks the necrotic processes of the advanced stage of the disease, and is more often absent than present; not the so-called "cachexia," on which so much stress is laid, for that is simply due to the septic absorption which attends extensive ulceration of the malignant growth. Hemorrhage, and hemorrhage of an irregular type, is the symptom which should awaken sinister suspicions, and lead to a careful examination of the patient, especially if it occurs after the menopause. It is a mistake to think that patients with malignant disease have from the outset profuse flooding, as do those with fibroid uteri. The escape of blood is rather an occasional "show," appearing especially on exertion. After the climacteric the patient sometimes labors under the delusion that her menses have returned; before that time she may think that it is only some irregularity of menstruation. A slight loss of blood after coition, which is so significant in commencing epithelioma of the cervix, is not usually observed in cancer of the body.

Sooner or later other symptoms appear; first pain, then a gradual depreciation of the vital forces, later a fetid discharge, though the latter is often conspicuous by its absence. An attempt has been made to draw a sharp line between epithelioma and round-celled sarcoma of the endometrium, though the distinction can hardly be made clinically. With sarcoma the patient, who has usually not reached the menopause, has menorrhagia rather than atypical hemorrhages, less pain, an offensive odor is less often noted in the discharge, and the constitutional disturbance comes later—in fact, all the symptoms make their appearance slowly, and are less alarming at the first. If I were to characterize any symptom as pathognomonic, I would exclude pain, hemorrhage, and cachexia, and would choose rather the peculiar reddish, watery discharge, "like the washings of raw meat," as a German writer has described it. As regards general symptoms, patients with sarcoma present an extremely pale, anæmic (often dropsical) appearance, as contrasted with the so-called "cancerous cachexia."

The symptoms of adenoma are thus described by Winckel: " . . . the chief symptoms are abdominal and sacral pain, painful spasmodic contractions, nausea, profuse watery discharges, and irregular, frequent, and severe hemorrhages." So-called "uterine tenesmus" is not peculiar to malignant disease; too much stress is laid upon it by some writers.

The question of differential diagnosis is an extremely practical and important one. In my experience the two conditions which are constantly mistaken for malignant disease of the endometrium are hyperplastic endometritis (*endometritis fungosa*) and intra-uterine fibroid, especially if the latter is sloughing. The history frequently aids us but little. If the patient is in the prime of life, and has the symptoms which we usually associate with subinvolution due to some puerperal lesion, and the hemorrhage is a pure menorrhagia, with no intermenstrual flow or watery discharge, the probabilities are that the case is one of simple fungous endometritis. If it is, the dull-wire curette may be relied upon to settle the diagnosis, for however doubtful may be the result of the examinations of cancerous and sarcomatous scrapings (which are often so necrosed as to show no characteristic appearances), I have found that there is seldom any doubt about the microscopic appearances of "fungosities." During the five years in which I was pathologist to the Woman's Hospital I had ample opportunities for observation in this direction, and was able repeatedly to pronounce against the diagnosis of malignant disease by an examination of scrapings. As negative evidence this is invaluable. I say "negative," because in many cases in which we suspect the presence of sarcoma the microscope does not furnish such positive evidence as we could wish. This I showed in a former paper on "Sarcoma Uteri," *New York Medical Journal*, July 21, 1883), in which I stated that repeated examinations of scrapings from four probable cases led to conclusions similar to those of Gusserow, viz.: "The microscopical examination of isolated masses does not lead to a very definite conclusion; we often meet with bits of sarcomatous tissue which are made up of perfectly healthy mucous membrane, and, on the contrary, in cases of simple hypertrophy, with pieces which resemble small-celled sarcoma." Personally, I believe that round-celled infiltration, observed in sections of the hypertrophied endometrium, is most often mistaken for sarcoma.

I am glad to find that Heitzmann (in the article alluded to) is in accord with me on this point, because gynecologists are always complaining of the want of positiveness in pathologists' reports on scrapings. Remember that this hypertrophy of the endometrium is a common accompaniment of fibroid tumors, even when these are of small size, so that the presence of the latter growths, accompanied by the hemorrhages referred to, need not cause alarm. As is well known, the menopause may be delayed in consequence, hence arousing the suspicion that a malignant growth is developing. Moreover, pain and a profuse (but not fetid) discharge are not seldom present. Yet I have had several cases at the Cancer Hospital in which this suspicion was so strong that it was only allayed after two or three thorough scrapings, with careful examinations of the tissue removed, since the patients had the pains and decline of health which we associate with cancer. Twice during the past week I have operated upon patients near the time of the menopause, who had been carefully watched by their physicians for months, without their feeling positive that the condition was not more serious than appeared at the time of operation. It is always gratifying to be able to say that even the most alarming symptoms can be referred to intra-uterine growths of a benign character. A small submucous polypus will sometimes give rise to symptoms which closely simulate those of malignant disease. When we remember that these growths may become sarcomatous, it is evident that they are not entirely harmless. There is only one sure way in which to settle the diagnosis, and that is to dilate the cervical canal (preferably with tents) and to explore the uterine cavity with the finger, as well as with the curette. I consider my failure to do this in two of my cases of extirpation as reprehensible, though the diagnosis, based on symptoms and the examination of scrapings, was confirmed after removal of the uterus. We need all the evidence that we can obtain, and ought not to venture upon a serious operation as long as any reasonable doubt exists as to the nature of the disease.

Hemorrhage after the climacteric has been fully established is, of course, a very significant symptom, and when accompanied by pain, offensive discharge, and declining health is pathognomonic; but even under these circumstances it is our duty to ascertain the exact condition of the endometrium. I have, in common with other gynecologists, removed sloughing polypi, which have caused the patient and her physician grave anxiety, and have seen these symptoms disappear promptly.

I have not mentioned sloughing retained placenta as a condition which might be mistaken for malignant disease; but here ordinary attention to the history will give a hint of the true state of affairs, which will be confirmed by dilatation and the use of the dull-wire curette, with an examination of the material removed. You will see that I have laid stress upon the microscopical examination. It should never be omitted, any more than the search for casts in albuminous urine. Only by the application of all the aids of modern science, as well as of common-sense, can we avoid lamentable errors in diagnosis, and still more serious ones in treatment, such as have happened in the practice of the most eminent surgeons.

With regard to the treatment of malignant disease of the corporeal endometrium I think there should be little difference of opinion at the present day. Provided that the diagnosis has been made sufficiently early, while the uterus is still movable and the patient is in fair condition, there

is only one course to pursue—to extirpate the diseased organ without delay. I believe that the vigorous application of the sharp spoon or curette to the uterine endometrium under these circumstances, as recommended by some eminent gynecologists, is attended with great danger; in fact I made an autopsy in a fatal case of perforation by the sharp curette and removed a uterus per vaginam, the wall of which would certainly have been scraped through, even with the exercise of the greatest care. What do we accomplish by so-called palliative treatment? If the patient is in the early stage of the disease, we injure her chances of recovery from a subsequent radical operation; if ulceration is already advanced and the uterine wall is generally infiltrated and softened, we expose her to the imminent risk of death from perforative peritonitis. An occasional application of pure carbolic acid or iodine and antiseptic injections (especially of creolin) are all that most surgeons will venture to use after they have decided that extirpation of the uterus is unjustifiable.

It would be unjust not to refer in this connection to the excellent results obtained by Pawlik and Byrne with the galvano-cautery, even in cases of carcinoma of the corpus uteri. The latter states that in four out of eight cases of primary cancer in which he used the cautery the average period of relief from hemorrhage, pain, and foul discharges was two years. It is unnecessary to add that only one who has had the most extended experience with this instrument (and they are very few) should venture to introduce it within the uterine cavity under the conditions mentioned.

I have come to the conclusion, after a careful review of the statistics of vaginal hysterectomy and personal observations in twenty cases, that the only cases in which vaginal hysterectomy is justifiable are those of carcinoma, sarcoma, and recurrent adenoma of the corpus uteri in which the patient has been under observation sufficiently long to have the diagnosis established, and an examination of the uterus and its interior under ether has demonstrated both the nature of the disease, the mobility of the uterus, and the absence of serious complications, either visceral or in the glands and perimetric tissues. As Greig Smith aptly expresses it: "The patient must be in fair health, with a prospect of average longevity from general soundness of organs apart from the malignant disease."

This may be a narrow limitation of the operation, but I believe that it will one day be accepted by those who aim at remote, rather than at immediate, results in the treatment of malignant disease. The most serious criticism of American statistics (and this applies to those of laparotomy as well as of vaginal hysterectomy) is that they are so imperfect as regards the after-history of patients. We are so anxious to rush into print that we cannot wait until two, four, or even six years have elapsed before reporting the ultimate results of an operation. We consider our patients as "cured" when they leave the hospital without bad symptoms. How superficial such a course is in comparison with the practice of German surgeons! It is calculated to bring us into great disrepute abroad, and to render our statistics valueless from a scientific stand-point. "I cannot conceive any good object," says Williams, "in operating upon a patient on a Monday and reporting the case on a Thursday, and then burying it out of sight forever."

I am not able to make a positive statement with regard to the ultimate results of extirpation of the uterus for cancer of the corpus uteri, as compared with those following hysterectomy for cancer of the cervix, but in suitable cases they are decidedly better. Ont of Kaltenbach's recently reported cases of vaginal extirpation (sixty in number) seven were for malignant disease of the corpus uteri, and there was no recurrence in any of them—I mean under the conditions which I have already mentioned as alone justifying the radical operation. Though no actual data are available, gynecologists agree that the perimetric tissues are less likely to be involved in the former case, and therefore that when we have removed the uterus we have eliminated all the disease. On the other hand, the average duration of life in cases of untreated cancer of the body is thirty-one months (Pichot). Sarcoma may run a course of two or three years, and patients with adenoma may live still longer with palliative treatment. That there is always an element of doubt, even in the most favorable cases, was shown in two instances in which I performed autopsies upon patients who were in good condition at the time of the operation, which was uncomplicated; one patient with sarcoma of the corpus uteri had metastatic deposits in the intestines, the other with cancer of body of the uterus had both lungs studded with cancerous nodules, but in neither instance were there any evidences of secondary malignant disease within the pelvis. Consequently, when we speak of "curing" these patients we must not be over-confident. All that we can say is that in favorable cases of cancer of the body of the uterus we may hope to relieve the patient for a considerable period, to prolong her life for two or three years, or rarely for five or ten; that in cases of sarcoma of short duration the prospect of permanent relief after hysterectomy is still better, while in those of adenoma which has not yet assumed a well-marked malignant type (as in the two cases to which reference has been made) there is every reason to expect that the patient will be cured by extirpation of the uterus.

There are certain precautions to be observed in the removal of a uterus, the fundal wall of which has been softened by infiltration with malignant disease, as I have learned from personal experience. In the first place, it is highly desirable before beginning the operation to ascertain if the organ is not too large to be removed through the vaginal wound. I was on two occasions considerably embarrassed by the large size of the fundus, and I have known of the operator being obliged to open the abdomen in order to complete the operation, thereby adding immensely to its risks. Again, the position of the uterus should be noted, else one may lose valuable time in trying to antevert an organ which is retroflexed and adherent. I have found it easier to retrovert the uterus, rather than to antevert it, as is my practice in cancer of the cervix. A small, but important, detail is not to introduce the utero-tractor into the uterine cavity, since it almost invariably tears out and is apt to perforate the wall, allowing septic material to enter the peritoneal cavity at an early stage in the operation, as well as causing it to escape from the cervix and ooze over the vaginal wound. It is better to plug the cervical canal with iodoform gauze, and to make traction upon the cervix alone. Caution should also be exercised in drawing down the fundus, lest the softened uterine wall should be badly lacerated by the tearing out of the hook or volsella, allowing acrid pus to escape into the cavity, as has happened to me, once with bad results. In short, more than ordinary care must be exercised in handling the uterus not to perforate its wall. The ovaries and tubes should invariably be extirpated, even at the risk of considerably prolonging the operation, as it is a well-established fact that in malignant disease of the corpus uteri the mucous lining of the tubes is liable to be affected by direct continuity; hence there is a special reason for insisting upon their complete removal which is not present in cases of cancer of the cervix uteri.

But, even after using the greatest care in the selection of proper cases for operation, and limiting himself strictly to such as I have described as alone suitable for hysterectomy, the conscientious surgeon, however elated he may feel at the completion of an operation rapid in its execution and faultless in its details, must in his heart acknowledge the truth of Reeves Jackson's criticism that "the successful removal of a cancerous uterus is a very different thing from the successful removal of a uterine cancer."

Appended are the condensed histories of four typical cases of malignant disease of the corpus uteri, three of which occurred in my service at the New York Cancer Hospital:

Case I. *Epithelioma Corporis Uteri.* — The patient was fifty-one years of age, and had had little or no pain prior to her entrance into the Cancer Hospital, in October, 1888 (service of the late Dr. J. B. Hunter). She had never had any fetid discharge, nor any hemorrhage other than an occasional "show" of blood. Considerable doubt was felt as to the diagnosis because of the excellent condition of the patient. The dull-wire curette was introduced after she was under ether, and brought away a quantity of grayish, brain-like material, which was, at the time, regarded as typical sarcoma. Vaginal hysterectomy was performed, the broad ligaments being secured with clamps. The patient made a rapid recovery, and returned home at the end of four weeks.

[In discussing this case, when reported at a meeting of the New York Obstetrical Society, Dr. Byrne said: "I have seen quite a number of cases of intra-uterine cancer of the character shown in the specimen, and I have been repeatedly struck with the fact that in many of them there is not only no cachexia, but nothing to indicate that serious trouble exists, except hemorrhage. With regard to the pain said by nearly all authors to be almost characteristic of intra-uterine carcinoma, it is not borne out by clinical experience. . . . The pain so much spoken of by some authors, both old and recent, is purely fictitious."]

After Dr. Hunter's death the patient came under my care. She remained in good health for nearly a year, when she began to have pains in the back, with an occasional slight discharge of blood. On examination I found a suspicious, angry-looking nodule at the posterior edge of the wound. This has increased in size until it has become a mass as large as a small orange, which encroaches upon the rectum. It bleeds easily to the touch, but seldom spontaneously. There is no offensive discharge, the patient remains comfortable, and her general health has not yet been impaired.

Case II. *Epithelioma Corporis Uteri.*— Mrs. C——, aged fifty-five, a widow, had borne seven children, the youngest aged fourteen. Her grandmother and an aunt died of carcinoma uteri. She passed the menopause at forty-eight, and enjoyed perfect health until nine months before I saw her, when she first noticed an occasional slight bloody discharge from the vagina, which later became quite constant but odorless, and was accompanied by backache and occasional shooting pains through the pelvis. Her health was not impaired, and she presented the appearance of a robust woman. Two or three months before she was seen by me I examined some material curetted from the uterine cavity by the late Dr. Hunter, not knowing the history of the patient, and reported that it was probably round-celled sarcoma; I afterward learned that this was the patient in question. During Dr. Hunter's illness, April, 1889, she was sent to the Cancer Hospital by her physician, Dr. Pettit, and came under my care. I examined her several times, removing with the curette bits of soft, friable material, which under the microscope presented numerous groups of cells of an epithelial type, but no distinct alveolar structure. The uterus was large, retroflexed, and fairly movable; the endometrium was soft and spongy, bleeding easily. As the patient was apparently in perfect health, there was no foul discharge, and the microscopical evidence was not positive, I was not sure of the diagnosis and asked Dr. Bull to see the patient in consultation. He believed that the condition was malignant disease of the corpus uteri, and advised extirpation of the uterus. Another fragment of tissue was removed from the interior of the uterus, and was submitted to the pathologist. After a careful examination he was unable to find microscopical evidences of malignant disease.

The operation was somewhat complicated, and occupied nearly an hour. Not only was the uterus retroflexed and firmly adherent, but its wall was so softened that the utero-tractor, though introduced to the fundus, tore out several times. There was an enormous cystocele, which rendered it difficult to separate the bladder and to keep it up out of the way. In drawing down the fundus with a volsella, the wall was perforated, and a quantity of soft, brain-like material oozed through the opening into the peritoneal cavity; it was thoroughly sponged out. The adnexa were also removed with some difficulty. The broad ligaments were secured with compression-forceps, which were removed at the end of thirty-six hours. The patient made a good recovery, and after cicatrization was complete her cystocele was found to be almost cured. She is now enjoying good health.

The case was of interest from the stand-point of diagnosis. Here was a patient with slight, irregular hemorrhages (appearing after the menopause had been fully established), no foul discharge, little if any pain, and in appearance the picture of health. Several suspicious fragments were removed from the uterus by the curette, and were examined microscopically without positive results. A competent pathologist reported that the fragment sent to him was simply granulation tissue; he had received a portion that was undergoing ulceration. In spite of the negative evidence, the body of the uterus was found at the operation to be so extensively diseased that the wall would soon have been perforated.

[I quote from Dr. Wylie's remarks on this case, when it was reported at the Obstetrical Society, to illustrate what I said about loose statements regarding the frequency of certain rare pathological conditions:

"I think the percentage of cases of cancer of the body of the uterus given by Dr. Coe is entirely too small. According to my own experience I would place it nearer ten per cent. One reason why it has been placed much lower is the probable fact that many cases have not been diagnosticated. Out of six or seven cases in which I have done hysterectomy for cancer this year, two were cases of cancer of the body of the uterus. With regard to the microscopical examination, I may say that practically I consider it worth hardly anything. With regard to the use of the curette, I think that where the uterus is firm there is no more danger attending the steel instrument than the other. It has the advantage of leaving a smooth surface and not macerating the tissues. I have sent the material scraped away by the curette to as many as three pathologists for microscopical examination in some cases of cancer of the body of the uterus, yet all were unable to make a diagnosis. They could simply say that it was doubtful. Now, when a woman comes to me with a history of flowing two or three years, especially if it is five or six years after the menopause, and the flowing cannot be readily accounted for in any other way, I am prepared almost to take it for granted that she has cancer, if not of the cervix, then of the body of the uterus. In two cases within about a year, I curetted the uterus on three occasions; microscopical examinations were made with more or less negative results; then, taking the history as a guide, I performed hysterectomy, and in both cancer of the body of the uterus was found. Since we have learned to recognize these cases, we will have more of them than formerly. Some of the patients have only a little watery discharge, with admixture of some blood, continuing perhaps two, three, or even five years, until the body of the organ has become largely involved, while the internal os is nearly closed and the cervix apparently normal."]

Case III.—Mrs. McC——, aged sixty-three, entered my service in December, 1889. She was a widow who had borne seven children, and stated that her health had been good until seven months before, when it began to decline without any assignable cause. About this time she began to have occasional slight hemorrhages. For a few weeks prior to her entrance she suffered with severe backache. While under observation in the hospital she had no pain or hemorrhage, and there was only a slight, non-offensive vaginal discharge. In this case I settled the diagnosis positively by dilating the cervical canal with tents, and introducing my finger into the uterine cavity. A number of soft cauliflower masses were felt on the posterior wall, one as large as a marble, from which I re-

moved a good sized piece with the sharp curette. It showed under the microscope the structure of adeno-carcinoma. A week later I performed vaginal hysterectomy, using the clamps. The operation presented no especial difficulties. The ovaries and tubes were removed. The patient, being an alcoholic, had an attack of delirium tremens, jumped up and walked around the ward on the third night after the operation, but suffered no ill effects from it and was sitting up before four weeks had elapsed. She was discharged well, and will be kept under careful observation.

Case IV.—Miss F——, aged fifty, entered my service through the courtesy of Dr. Cleveland in December, 1889. She had reached the menopause seven years before; two years later she began to have slight hemorrhages at infrequent intervals, but had never had any offensive discharges. She was in the Newark Hospital in March, 1889, when the uterine cavity was thoroughly curetted, and this operation was repeated at the Woman's Hospital in September of the same year, but, unfortunately, no examination of the scrapings was made. The hemorrhages were always checked after each curetting, but in a few weeks they recurred.

For a few months prior to her entrance she had had severe paroxysmal pains, which began about eleven o'clock every morning and lasted from two to four hours. On entrance the patient's general health was excellent. I found her uterus small, movable, and insensitive. The introduction of a dull-wire curette gave pain and caused a flow of blood. I removed a small bit of tissue, sections of which I examined microscopically without positive results. I could say positively that it was not fungous endometritis, and that it was not sarcoma. In one section the presence of groups of epithelioid cells pointed to a cancerous element. Taking all the evidence into consideration I came to the conclusion that there probably existed malignant disease of the corpus uteri, and decided to perform hysterectomy. The operation was the most difficult that I had ever seen or done, as the patient was a virgin and the working space was so limited that it was necessary to divide the perineal body and to incise the vaginal wall in order to gain room. It was impossible to reach and remove the ovaries and tubes, or to apply a single ligature. The patient had considerable shock, but rallied well, and is now in good health and entirely free from pain.

Dr. Freeborn, the pathologist, reported that the specimen was a rare and interesting one, since microscopically it was a papillary adenoma. It was strictly limited to a small area on the posterior wall. He regarded it as clinically only a little less malignant than cancer, an opinion fully confirmed by its rapid recurrence after curetting. He had seen only one other specimen—Dr. Bache Emmet's, to which allusion has been made. The prognosis as regards a permanent cure is better than in any case that I have seen.

[Since writing the above I have extirpated a uterus which was the seat of round-celled sarcoma of the corporeal endometrium. The patient was referred to me by Dr. A. M. Jacobus, who had made a diagnosis of probable malignant disease several months before. The operation was quite easy, but the patient was in poor general condition, having contracted kidneys, and died on the fourth day.]

Tight Collars and Vision.—The influence of tight collars in impeding the circulation in the head by pressing on the jugular veins is well known to military surgeons with the troops in India; but the bad effects of such pressure in cooler climates has been demonstrated by the observations of Professor Förster, of Breslau, who states that three hundred cases have come under his notice in which the eyesight has been affected by the disturbance of the circulation caused by wearing collars that were too small. A large number of these cases were probably subjects of myopia.—*The Lancet.*

THE SUCCESSFUL REMOVAL OF AN ANTERIOR ENCEPHALOCELE.

By W. F. MITTENDORF, M.D.,

NEW YORK.

Among the tumors of the head connected with the cranial cavity encephaloceles appear to be the most frequent, and yet they are fortunately quite rare, especially the anterior and lateral ones.

These tumors are, with very few exceptions, congenital malformations and vary considerably in regard to size, location and contents. At the time of birth they are usually small, but their tendency is to grow rapidly, and some of them attain a size almost equal to that of the head. They are usually found posteriorly, but quite a number of them have been found in the median line of the face over the root of the nose. Very few cases have been observed where the protrusion was in the temporal region and those projecting into the mouth, between soft and hard palate, are very rare. Out of ninety-three collected cases (Hurd) only sixteen were over the nose.

Fig. 1.

The mode of development of these tumors can perhaps not be fully explained. Some authorities suppose that an intra-uterine hydrocephaloid condition must be present in order to cause a prolapse of meninges or of the brain itself. It is, however, more than likely that a small prolapse or folding of the dura-mater before union of the bones takes place has more to do with it than an imperfect bony union inviting a prolapse.

The three varieties of these tumors, arranged according to the frequency they are met with, are those containing cerebral matter surrounded by the meninges, known as encephalocele or hernia cerebri. The second form is where this condition is accompanied by hydrocephaloid changes; it is spoken of as an hydrencephalocele. The third form, the rarest of all of them, is a prolapse of the meninges alone, the prolapse being greatly distended with fluid. This is known as a meningocele.

The prognosis of all of these deformities is very grave; the sac becomes more and more distended until it bursts, or sloughing of it will lead to a rupture and cause the death of the patient. The prognosis of an encephalocele is perhaps a little more favorable. In such a tumor, if it has a small pedicle, sacculation and separation from the cranial cavity may take place, in which case the growth of the prolapse is arrested, and even if rupture should occur it is not necessarily fatal. If death does not occur, there is, however, great danger that the patient will become more or less idiotic or paralytic.

A case of this kind presented itself to me at the New

York Eye and Ear Infirmary a little more than two years ago. The patient a well-developed male child, four days old, had the appearance which is faithfully represented in Fig. 1.

The history, as told by the midwife in charge of the child, is as follows: At the time of birth the child was found to have a swelling of the thickness of an ordinary lead pencil, extending along the left side of the nose and covering the left eye to a great extent. As soon as the baby was being washed and commenced to cry the tumor began to enlarge and had grown so rapidly that on the fourth day, when I saw the child, it had the size of a pigeon's egg and as soon as touched, or rather as soon as the child began to cry, it would become tense and swell considerably. The tumor was not covered by integuments, it appeared like a membranous bag, here and there covered by crusts, and having some blood-vessels running over it. It was semi-transparent, but although most of its contents were of a liquid nature the absence of blood could be easily diagnosed on account of its transparency when tested by the light of a candle, and on account of its pale, almost transparent appearance. The presence of brain-matter however, remained doubtful, as moderate pressure, carefully applied, failed to empty the contents to any great degree. The tumor covered the left eye completely and appeared firmly attached to it, and as there was a large cleft of the left wing of the nose, apparently extending up to the pedicle of the tumor, the first thought was that I had a degeneration of the tear-sac to deal with.

However, after placing the child under chloroform, which became necessary, as it was very restless and cried constantly, it was found, after soaking and removing the crusts gluing the tumor to the cheek and eyelids that there was no connection whatever of the growth to the eye, nose, or tear-sac. It proved to have started from the median line of the forehead, between the eyebrows and apparently from the lower portion of the frontal bone. It had a rather thick pedicle, which was surrounded by the integument of the face; this did not extend far over the tumor, which externally was composed of a transparent membrane with a number of very little blood-vessels running over it. The size of the tumor had somewhat diminished as soon as the child had become quiet, and gentle pressure resulted in evacuating some of its fluid contents so that it became quite flaccid, but like a mass of erectile tissue it filled anew, and the growth became hard as soon as the child began to recover from the effects of the anæsthetic and began to cry. The diagnosis was now easy, the existence of a fissure of the skull could not be felt through the skin, but that the protrusion was connected with the brain, or at least with the arachnoid spaces, could no longer be doubted.

The eye as well as the tear-sac were perfectly normal, and the cleft of the left nostril extended not quite to the inner corner of the eye. It was evidently caused by pressure of the thin smaller growth during intra-uterine life. The hard as well as the soft palate were perfectly normal and the child, an unusually large one, was perfectly developed in every other respect.

A photograph of the child was now taken and the parents were informed of the nature of the tumor and the possible consequences of an operation. Both parents agreed cheerfully to the operation, however—in fact expressed themselves emphatically that they would rather take the risk of having the child die in consequence than to have it deformed for life. The tumor showed an alarming tendency to grow, and on the sixth day after birth—that is, two days after its first visit to me—the growth had become, if distended, as large as an ordinary hen's egg.

Dr. Robert Weir and Dr. Richard H. Derby, who had seen the case in consultation, advised likewise an immediate operation, on account of the rapid growth of the protrusion.

The operation took place on December 12th, the child being six days old. Chloroform was used to produce narcosis. The integument was then incised a short distance from and around the pedicle. After the base of the pedicle had been thoroughly exposed a strong catgut ligature was passed around it, as near to the bone as possible, and firmly tied. After this the tumor was removed by cutting it off with a scalpel. I left, however, nearly a quarter of an inch of the pedicle to prevent the ligature from slipping off too readily.

The surrounding integument was now incised and dissected up sufficiently so that it could be drawn over the stump. It covered the pedicle completely, leaving only a small drain at the lower portion, and the ends of the catgut suture served as a drainage-tube. The integument of the upper portion was connected with that of the nose by several stitches. This was done partly to leave as little deformity as possible and partly to protect the stump from external injurious influences, and partly to prevent the catgut ligature from slipping off, if the pedicle should begin to shrink.

Fig. 2.

After some difficulty to revive the child, which had stopped breathing near the end of the operation, a dressing of absorbent cotton, soaked in a 1 to 2,000 solution of bichloride of mercury was placed over the wound and held there by a pressure bandage. The child was then sent back to its mother.

The dressing was renewed daily. The upper portion of the integument healed rapidly, and made an excellent covering of the stump. In the lower part of the wound, near the nose, the stitches tore through and this portion healed slowly by granulation.

About the eighth day after the operation most of the catgut came away and healthy granulation filled the lower part of the wound. The upper part of it was now quite firmly united, and in a short time the wound had entirely closed, leaving but very little deformity; nor had the child shown any unpleasant symptoms whatever during this time, nor later.

This picture represents the child nearly three months after the operation. When it was about six months old the coloboma of the nose was operated upon, and up to that time the boy had grown well and appeared to be as intelligent and strong as any child of its age.

The child is the third one of its mother, and none of its brothers, nor its father or mother, show any deformity whatever.

In regard to the tumor, I have to state that at the time of the operation most of its fluid contents, consisting of

a clear, straw-colored fluid, here and there mixed with a little blood, escaped, that the pedicle was about as large as my little finger, and that very little bleeding took place at the time of the operation.

The growth was located at the root of the nose, and had apparently left the skull between the cribriform plate of the ethmoid and the frontal bone, and appeared anteriorly between the frontal and nasal bone.

On removal the tumor itself was found to measure $30 \times 24 \times 16$ mm. It had about the size and shape of a somewhat flattened rubber nipple, and at its constricted pedicle, the cut surface measured 11×7 mm.

After hardening in Mueller's fluid, and subsequently in alcohol, longitudinal and transverse sections were made by my friend, Dr. Lennox, and examined with the following results: The tumor consists essentially of three parts—an outer connective-tissue envelope, partially covered by epithelium, an inner solid mass made up of tissue resembling cerebral cortex, and an intermediate space, cut up by irregular bands of fibrous connective-tissue into smaller spaces more or less completely filled with coagulated fibrin and small round cells. The epithelium covering the outer part of the tumor is laminated, the inner cells being columnar, the middle polygonal, and the outer flattened. The epithelium is not present over the entire surface, there being extensive superficial ulceration, and in places it is apparently infiltrated with fluid, the outer cells being separated from the inner by irregular spaces, and by irregular, larger, or smaller cavities or vacuoles, formed sometimes in, sometimes between the cells. The epithelium rests on a fibrous basement substance or membrane, which is smooth and shows no tendency to the formation of papillæ. It is largely infiltrated with inflammatory products, and, as already said, is extensively ulcerated in places, the surface of the ulcer being covered with a granular detritus. The central mass of the tumor has, as I have said, the appearance of the cortex of the cerebrum. It consists of a somewhat granular matrix containing numerous larger and smaller round and branching cells, together with numerous blood-vessels. The latter, chiefly capillaries, are distended with blood, and have ruptured in places, thus giving rise to irregular hemorrhages, which may be found scattered through the specimen. This central more solid portion is somewhat more than half as large as the whole tumor (it measures 16×7 mm.), contains a narrow, slit-like space filled with blood and coagulated fluid, and is enclosed by a highly vascular connective-tissue envelope. Between this envelope and the outer fibrous covering of the tumor is the irregular reticulated space which, before removal of the tumor, was filled with fluid and now contains coagulated fibrin and pus-cells. Indeed, the whole specimen shows marked evidence of inflammation, together with extreme vascularity.

The examination shows the case to be one of encephalocele, the prolapsed cortex being enclosed in the somewhat modified brain membranes, and the whole showing the changes incident to the accompanying inflammatory action.

In conclusion I would state that the result of this case speaks strongly for an operative interference in cases of meningocele, and likewise in those cases of encephalocele where a comparatively small pedicle exists; that the operations should in these cases be performed as early as possible, and that there is very little danger of meningitis if the necessary antiseptic precautions are observed.

The child at the present time is doing well in every respect. There is hardly any scar left and the mental faculties do not appear to be disturbed in the least. The mother seems to think that the child is unusually bright and lively.

A Fully Equipped Bathing establishment with all that is to be found at the best Spas of Europe will, it is said, be erected at Richfield Springs. We are also told that a Zander Institute with all the Zander machines is to be established in this city.

A CASE OF PLASTIC BRONCHITIS IN A CHILD.

By CHARLES LEWIS ALLEN, M.D.,

NEW YORK.

Fibrinous or plastic bronchitis, occurring idiopathically, and especially in its acute form, and in children, is described in our text-books as a rare disease. *The London Medical Recorder* (quoted in the Medical Record of January 18, 1890) mentions that Dr. Samuel West has collected all the cases reported since 1869, and has found them to amount to fifty-two, the majority being of the recurrent type. Dr. West himself had seen but one case, this in a woman aged forty, the attacks recurring at intervals during two years. In consideration of these facts I am induced to report the following case:

Annie C——, a previously fairly healthy child aged seven, was taken sick on November 18, 1889. She complained of pain in the left side of her chest and of nausea. By the afternoon of the 19th she had grown worse, vomited occasionally, and had developed considerable fever and restlessness, and some cough. I saw her first at 1 P.M. on November 20th. Her face was flushed, and she appeared to have considerable dyspnœa; axillary temperature, 103.3° F.; pulse, 150; respiration, 60. On physical examination there was found some dulness and a few fine râles below the left clavicle; breathing slightly bron-

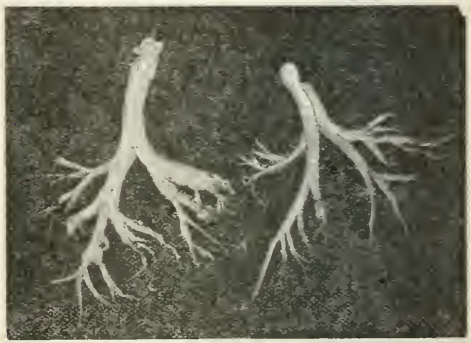

Fig. 1. Fig. 2.

chial; then, a little lower, a slightly tympanitic percussion note. I diagnosed beginning pneumonia; ordered a flaxseed poultice, and a mild expectorant cough-mixture, also two grains of antifebrin, given at once, and repeated that night if necessary. On the morning of November 21st she was seized with a fit of dyspnœa, and coughed up cast No. 1 of our plate, experiencing at once prompt relief. At 1 P.M. she seemed better; temperature, 102° F.; pulse, 144; respirations, 50. The physical signs remained about the same. No membrane could be detected upon the fauces.

On November 22d Dr. G. E. Billington saw her with me. We found her considerably better—temperature, 97° F.; respiration, 36. The dulness at the left apex persisted; there was marked diminution of the respiratory murmur in the same region; no râles to be heard, no membrane on the fauces, and no albumin in the urine. On the morning of the 23d, with the same train of symptoms, she coughed up cast No. 2. Both of these casts were expectorated at about 6 A.M. Temperature at 1 P.M., 98° F.; pulse, 104; respiration, 40. The dulness at the left apex was unchanged. A slight dulness was detected over the base of the right lung, and a few coarse and a few fine mucous râles diffused over both lungs. The child looked well and bright. After this I saw her every day until November 30th. The abnormal physical signs grew gradually less. On December 4th she was quite well, and only a suspicion of dulness over the left apex remained. I have seen her at intervals until to-day, March 5, 1890.

Her chest is now quite normal, and she has had no return

of the trouble. At no time had she any laryngeal symptoms. She is in good health, though slight, and rather sensitive to cold. The treatment was only that of ordinary catarrhal bronchitis. I wanted to give her alkaline inhalations, but found this impracticable in a tenement-house, and, in fact, at no time were her symptoms very urgent. The subjoined figure is from a photograph by Mr. Keenan, of the New York Polyclinic. Cast No. 1 is 3 inches long by $\frac{3}{16}$ inch at its greatest diameter; No. 2 is $2\frac{1}{2}$ inches by $\frac{1}{4}$ inch.

They were coughed up with some fatty mucus, and were pinkish white in color. They are partly hollow, a probe entering a short distance only. On microscopic examination a piece of No. 2 was found to consist of fibrin, with a large number of leucocytes.

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SOME FACTS IN THE HISTORY OF DIPLOMA MANUFACTURE IN THE UNITED STATES.

By AUSTIN A. MARTIN, ESQ.,

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The recent action of the authorities of the University of Berlin in refusing to recognize American diplomas in their university calendar, again brings forcibly to mind the infinite harm done to the good name of American physicians by the wholesale manufacture of diplomas in this country. The appeal of the medical schools of Maryland to those of the rest of the United States, to unite upon some plan of action for improving and regulating medical education, will, it is hoped, result in some uniform and useful action in this direction, and tend to raise the standard in all honest and *bona fide* medical schools. Much as the general standard of medical education might doubtless be improved here, it is probably not this, but the wholesale and outrageous manufacture and sale of fraudulent diplomas in the past, that has influenced the German authorities in their action. It is the purpose of this article to review briefly some of the leading facts in this unsavory record of rascality.

A diploma is essentially a good thing to have. The veriest quack would naturally prefer one from one of the best medical schools of the country, to hang conspicuously in his office. He would much rather not enrol himself in the ranks of "natural healers." He wishes to be respectable, and by dint of "doctoral conduct" and persuasive arts to take good rank in the profession. He knows the power of wheedling manners, unblushing effrontery, and shrewd longheadedness. He knows it is of no use to go to any of the leading medical schools. That would involve at least three years' study and attendance. He has no time or inclination for such old-fashioned methods. He does not dare to insert his name in the diploma of a deceased physician. That is too risky. How to meet the difficulty? The genius of John Buchanan, of Philadelphia, the great inventor of diploma manufacture pure and simple, rose to the occasion and supplied the long-felt want. The first requisite was that the diploma should be conferred by a regularly chartered medical college; second, that it should be attainable in the shortest possible time; and third, that it should be handsomely engraved, and sealed in due form, and, preferably, in Latin.

His reputation was not such as to make it probable that, even in the slipshod manner in which legislation is often conducted, he could form new colleges by special charter. In the emergency it occurred to him to get control of, and revive some regularly-chartered colleges which had practically perished of inanition, but whose charters had never been annulled. This was not difficult to manage. Armed with the college seal, and blank diplomas, taken from some dusty drawer or closet, and bought for a small sum, he was in position to start in trade. Subsequently he did succeed in getting charters for one or two new colleges, which were conducted in the same way as the old ones. Indeed, emboldened by this success, he also sold diplomas purporting to come from institutions which had not even the pretence of a legal existence. It was rather, however, on those which had an actual legal existence that he relied. Then commenced a most wholesale and disgraceful manufacture and sale of diplomas. The difficulty was, that this rascal controlled colleges whose charters were still in full force, with "a faculty," like "men in buckram," it is true, but yet capable of signing their names legibly to a diploma. The whole farce was kept up, even to holding meetings of the "faculty" and keeping records of their proceedings, and issuing lecture tickets and certificates of matriculation. Indeed, until he became bolder, and took other steps which brought him within reach of the law, his graduates were legally doctors of medicine. He had the audacity to test the question in the courts, which were obliged, under the facts in the case, to sustain the legality of his charters. Emboldened by this, he became more and more reckless, openly advertised his diplomas, and had agents for their sale both here and abroad. Immense numbers were sold in Europe, especially in Germany, where the American Minister at Berlin openly denounced them as fraudulent.

He was finally caught by a newspaper man, John Norris, of the Philadelphia *Record*, to whom under various fictitious names, he sold no less than eight diplomas, conferring several degrees of M.D., one of D.D., one of D.C.L., and one of LL.D. Some of these were technically legal in form, but some absolutely fraudulent. Upon his arrest the whole paraphernalia of his fraudulent operations were captured, and ample evidence to convict him was secured in his correspondence and papers. A full *exposé* was published in the Philadelphia *Record* of June 10 and 11, 1880. His subsequent confession, giving full particulars of his operations, and implicating other individuals and institutions, appeared in the same paper, March 25, 1881.

To Buchanan belongs the discredit of first systematizing and cheapening the manufacture of diplomas. Doubtless the thing had gone on in a sneaking amateur manner before his time. It is not difficult to conceive that, in some of the inferior colleges, where the requirements were not very strict at the best, a pushing fellow who had decided to become a doctor, and to whom a delay of a year was a serious drawback, might make it an object for some needy or friendly instructor to pass him speedily in his particular course. The example might prove contagious; another might be found equally indulgent; until finally the payment for a year's tickets, and an actual stay of six or eight weeks would suffice to turn out a full-fledged M.D., against whom nothing could be said legally. True he might be utterly incompetent, with no knowledge of his profession beyond a few scientific words and phrases hastily culled from the fields of learning; but there he was—a doctor of medicine in name and legally.

These puny efforts were nothing compared to the Napoleonic proceedings of Buchanan. He it was who degraded American diplomas to such an extent in Europe that their name became a term of reproach, and good and bad were confounded together. The authorities at Berlin, in explaining their recent action, are reported to have said, that while they admit the existence of many excellent schools in America, they cannot attempt to discriminate between these and the fraudulent and worthless institutions which have disgraced, and still disgrace America. They urge the laxity of American laws in the matter of conferring degrees, as the reason for this step.

Buchanan's capture and imprisonment excited much public attention at the time, but the details of such matters are soon forgotten. The charters of his colleges were annulled; but many of the persons upon whom he had conferred degrees were legally doctors of medicine. There might be a cloud on their title in the eyes of honest men who knew the facts, but the parchment conferring the degree of M.D. remained.

The criticisms of the German authorities upon the lax

state of the law and the lack of uniformity as to any proper standard of medical education in America are unfortunately too just. The opportunities for quacks have been and are far too available. No better example of this can be found than the laws of Massachusetts between 1874 and 1883. Up to 1874 a special charter from the legislature was necessary in order to form a medical school. In 1874 an act was passed (Acts 1874, ch. 375) which, whatever may have been the intention of its framers, materially enlarged the scope of the existing law. This chapter provided in substance, that seven or more persons could form a corporation under the general laws, for "any educational, charitable, and religious purposes, for the prosecution of any antiquarian, literary, scientific, medical, artistic, monumental, or musical purposes," etc. It allowed such corporation to assume any name not previously in use by any existing Massachusetts corporation, and to prescribe by its by-laws the officers and agents by whom the purposes of its incorporation might be carried out. No capital was required, no restrictions as to the character of the instructors or the course of study—practically nothing to restrict its action. There was no provision expressly authorizing such corporation to confer diplomas, but there was nothing to prevent its doing so. No clause making it a crime or misdemeanor. What an opportunity! Slovenly and loose as legislation is apt to be, many a bold quack would hesitate before joining clairvoyants and other loose fish with himself, and applying in regular form to the legislature for a special charter for a medical school. Some pretence of stability and honesty of purpose would probably be required. But how different the ordeal under this indulgent statute! Six associates, five dollars for the certificate of incorporation, and, presto! the thing was done! Next a name, preferably a colorable imitation of that of some long-established school in another State, and then a well-executed plate in the Latin language, purporting to confer the degree of M.D., which work of art could then be sold to such as chose to buy. Several medical schools were actually formed under this statute, and given a name and existence by the authority and certificate of the State. The history of all of them is not known. One, which showed an honesty of purpose, was subsequently authorized by special law to confer the degree of M.D. One, the "Bellevue," so called, was detected in selling its diploma, without any pretence of a course of study, to a person under a fictitious name, who in his assumed character showed himself to be absolutely illiterate. The case was brought before the United States Commissioner at Boston upon a charge of using the mails for the purpose of defrauding, the diploma having been sent through the mail. The accused were discharged, the Commissioner ruling that nothing in the laws of Massachusetts prevented the school issuing its diploma to whomsoever it pleased. How many more such cases occurred is not known, but it is not uncharitable to suppose that there were many others. The legislature soon afterward passed an act (Acts 1883, ch. 268) forbidding these colleges formed under general laws conferring degrees, under a heavy penalty. None of the certificates of incorporation granted to them, up to the date of this later act, have, however, been revoked. Even the dishonest "Bellevue," so far as is known to the writer, still has a legal existence.

The instance of Massachusetts is cited merely as a well-marked example of the dangers of such loose and careless legislation.

Similar deficiencies exist in other States. All such facilitate the creation of utterly irresponsible schools, under a show of legal right. It is perfectly easy to stop this, by insisting upon a special charter for the formation of a college.

On the other hand, maintaining a high standard of medical education is by no means an easy problem for the legislature. It should, if possible, be attained in the first place by the combined and honest efforts of the best schools, fixing some standard of time and character of study below which no medical diploma should be granted. This standard should then be enforced by legislative enactment. Finally, no one should be allowed to announce himself as a doctor of medicine without such recognized diploma, or until after a suitable examination by a thoroughly competent board. It may be difficult to prevent persons actually practising medicine or surgery without a degree. Patients stubbornly insist on their right to have anyone they please attend them. Let it be so. The status of such practitioners would be defined. The State, however, can and should see to it that no diploma be granted by any college except upon a thorough examination in a curriculum of a high standard. I am aware that legislation looking to the regulation of the practice of medicine is difficult to accomplish, owing to an unreasoning popular prejudice. The laws of the various States differ widely. In some there is no restraint whatever; anyone may call himself a doctor of medicine, may practice and collect fees without diploma or license. Others have a more or less effective system of licensing after examination. Illinois, through the State board of health, has done excellent work in the matter of careful examinations, and in exposing fraudulent institutions. Difficult though it may be, something like a uniform and effective system of examination and licensing should be brought about. The law should draw the line sharply between the honest and well-educated man, and the quack or incompetent, who, either with knavish purpose, or with culpable ignorance, would pose before the public with the insignia of a learned profession.

ON THE DEGREE AND DEMONSTRATION OF ASTIGMATISM AS DETERMINED, WITHOUT THE USE OF MYDRIATICS, BY JAVAL'S OPHTHALMOMETER, MODEL OF 1889.

By H. DRAPER SPEAKMAN, M.D., PH.D.,

ASSISTANT SURGEON MANHATTAN EYE AND EAR HOSPITAL, NEW YORK.

For several years hypermetropia and myopia were recognized and treated apart from astigmatism. So clearly was this separation made, that multitudes of patients were fitted with convex or concave glasses, and their astigmatism entirely overlooked. Later on came the discovery of normal astigmatism in his own case by the immortal Young, as published in "Philosophical Transactions," in the year 1793. Next came a case of abnormal astigmatism, reported in the "Transactions of the Cambridge Philosophical Society," in 1827, by the Royal Astronomer Airy, and he also reported his own case. Following these reports have been others too numerous to mention, in which every phase of the subject has been fully discussed. I will therefore hasten on to the subject proper of this paper as expressed by its title. And let me here state that I intend to confine my remarks entirely to regular abnormal astigmatism. Now for the point that we are all, as oculists, interested in mastering practically, viz., the degree or amount of astigmatism present in a given case. According to Donders, page 481, the "degree of astigmatism is found from the difference of refraction of the two principal meridians." It is at this point that I would take exception to Donders, and to all who have written on, or taught, the subject according to this definition, from his time to the present day. Practically, the degree or amount of astigmatism is found, not in the difference of refraction of the two principal meridians, for refraction includes the whole optical condition of the eye, as measured from the fundus to the external limit of the cornea, and must necessarily take into account all the existing hypermetropia or myopia in determining the degree of astigmatism present. But the amount of astigmatism is found by the difference between the two principal meridians of the cornea, as expressed in diopters and as measured externally. You will say at once, "This is all very well for determining the

amount of corneal astigmatism, but how about the other causes of astigmatism independent of the cornea?" Allow me briefly to enumerate some of these other causes. We have lenticular astigmatism due to one of the following defects: 1. Malposition, as in obliquity of the lens or from luxation. 2. Asymmetry of the lens, due either to unequal radii of curvature or to uneven action of the ciliary muscle. 3. Malformation of the lens; it may be nearly globular in form. 4. Pathological changes in the lens-substance, which in one way or another alter its index of refraction. And, lastly, there may possibly be an astigmatism due to unequal curvatures of the fundus in the region of the macula lutea. But this last must be extremely rare, as myopes are apt to be less astigmatic than hypermetropes, although, as we know, myopia is caused by changes in the fundus. While I admit that my definition does not include any of these forms of astigmatism, I still hold that for all practical purposes it is correct; and though granting that there is necessarily a variation in those cases where one or more of the above conditions are present, this variation is a constant one which can be provided for in our calculations. While in all methods our final test is made subjectively, how much easier it is to know within one-quarter of a diopter the existing degree of astigmatism objectively, and then rapidly check off this result by means of our subjective examination. If this will hold good in cases of normally acute vision, of how much more value must it be where a subjective examination is negative in its results, as is so often the case in children, and always in cases of conical cornea and in amblyopes? Donders admits that, of the different factors producing an astigmatism, the corneal predominates, and it is now an established fact that in the vast majority of cases this preponderance is very great. Allow me to quote from Swan Burnett, page 128, as follows: "Since, however, it is a fact demonstrated more than twenty years ago in the physiological laboratory, and now fully corroborated by this very instrument, an earlier model, in the consultation-room, that the much larger part of astigmatism is corneal, and since it is as easy with it to measure the cornea in one meridian as in another, the value of this keratometer in the diagnosis of astigmatism can hardly be over-estimated."

My second point is the demonstration of astigmatism. We now, with the various keratoscopes, can measure accurately the axes and the difference in the corneal curvatures, and express this difference in diopters of refraction. So accurate are the results with Javal's ophthalmometer, by which we can measure to within one-fourth of a diopter of corneal astigmatism, that the instrument may well be called a keratometer; and by still further applying the rule to be laid down in this paper, it virtually is an astigmometer, instead of an ophthalmometer.

We can now get the total corneal astigmatism in a case, and practically estimate the amount of astigmatism present, without knowing the further refractive condition of the eye, viz., whether hypermetropia or myopia also exist. So that we should do away with all the compound words used to express or designate astigmatism, viz., simple or compound, hypermetropic or myopic, and mixed astigmatism, and simply speak of astigmatism. These designations were necessary formerly, for it was only possible to measure from within out, whereas now we approach externally and determine both the axis and amount of the existing astigmatism. After the astigmatism is fitted, it is a simple matter to fit the hypermetropia or myopia with an ophthalmoscope, or by turning on spherical lenses behind one connecting cylinder. I should further state that Javal's instrument not only gives us the total amount of astigmatism present, but also designates the proper axis at which to place the concave cylinder used in correction. From the simplicity of hypermetropia and myopia we advanced into astigmatism, but we carried these two conditions with us and mixed them up as compounds of astigmatism, as, for example, hypermetropic or myopic astigmatism. Now, we can and should, I think, after in turn separating astigmatism from them by means of astigmometers; we should, I repeat, return to simplicity again, and only recognize and teach three conditions of refraction, viz., hypermetropia, myopia, and astigmatism. We will now pass on to the consideration of two groupings of astigmatism, viz., astigmatism with the rule and astigmatism against the rule. These terms are being used, and will in future, I think, be adopted universally. Experience has taught us all that a large proportion of cases of regular abnormal astigmatism are corrected by placing a plus cylinder at axis 90°, or a concave cylinder axis 180°; in other words, the vertical corneal meridian is usually more curved than the horizontal. This condition constitutes an astigmatism with the rule. But there are numerous exceptions, and in a number of cases the exact reverse is found, and the horizontal meridian is more curved than the vertical. This constitutes an astigmatism against the rule. Cases are grouped under one of these two classes as the axis of greater curvature approaches one or the other of these two principal meridians. An astigmatism axis 45°, is just half-way between these two groups, and we cannot as yet formulate any rule that will modify the amount of astigmatism found with Javal's instrument. It may be interesting to note the fact that in an astigmatism with the rule the vertical curvature corresponds to the proper curvature of an emmetropic eye, and that it is the horizontal meridian that is wrong. (See Donders, page 495.) While some recent observers have stated that astigmatism with the rule may be due to lid-pressure in the vertical meridian, I have not been able to find any reason given for the numerous exceptions which constitute the second group, that of astigmatism against the rule. I venture therefore to formulate a rule as follows: The axis of a corneal astigmatism is determined by the relative length of the palpebral fissure as compared with the horizontal diameter of the eyeball. Let me illustrate. If, on inspection, the palpebral opening presents an oval appearance, we should look for an astigmatism with the rule. If, on the contrary, the palpebral opening looks round, we should expect an astigmatism against the rule. After ascertaining from Javal's instrument (preferably his model of 1889, which is greatly superior to the preceding ones) the axis and strength of a concave cylinder required to neutralize the astigmatism present, it is a simple matter to correct the additional refractive error, be it hypermetropia or myopia, by adding convex sphericals, beginning with one rather stronger than our correcting cylinder. We all know how much easier it is to fit all refractive cases by using concave cylinders combined with plus sphericals. We obtain results so much more quickly that it is much more convenient for routine practice than the old method. The rule for using Javal's ophthalmometer is as follows: In astigmatism with the rule, the patient usually accepts three-fourths of a diopter less than the amount indicated by the instrument, while in an astigmatism against the rule, the patient may require three-fourths of a diopter more than the amount found. If there is no corneal astigmatism we should look for one-half diopter against the rule. By following the above rules, with slight modifications, Javal's ophthalmometer becomes in reality an astigmometer. We have then in this astigmometer an instrument by means of which we can fit an astigmatism without the use of atropine or any of the other mydriatics, and need only employ them in those cases where we wish to obtain their therapeutic action, as in spasm of accommodation and in the various diseases of the eye.

154 Madison Avenue.

An Alleged Cure for Hydrophobia.—Dr. Arapad Bokai, Professor at the University of Klausenburg, claims to have compounded a solution which completely neutralizes the poison introduced into the system by the bite of a mad dog. This solution consists of chlorine water, salt brine, sulphurous acid, permanganate of potassium, and eucalyptus oil.

JUSTICE TO HOSPITAL GRADUATES.[1]

A Proposal to Adopt the Title of H.G.S., Hospital Graduate, Surgical; H.G.M., Hospital Graduate, Medical.

By GEORGE E. ABBOTT, M.D.,

NEW YORK.

In looking over the student world I find that men have, from time immemorial, given many of their fellows certain titles, indicative of, and as a reward for, certain lines of labor which they have pursued.

These titles denote part of the work done by the individual, and are of much use to us, as are all diplomas and certificates. Thus we have Rev. and D.D.; Att'y, and LL.D.; Dr. and Prof.

Our colleges give the degree of Bachelor of Arts to their graduates, and, if subsequent years of study are successfully pursued, Master of Arts is the reward.

Thus we see that there are certain titles which represent to us the preparatory and advanced work respectively, which the possessor of the title must have accomplished, and if we are in search of a man of special attainments the title serves to indicate to us such an one as we seek; and we can go to him with the assurance of finding a man whose training has fitted him for the work we desire to have done.

In the medical world a large number of men after completing the undergraduate work, which secures to them the title of M.D., continue their studies, spending much time and constant labor to acquire a hospital training. Such a training is of far greater value to the sick and wounded than the undergraduate course which gave them their M.D., and gives an experience equal to many years of private practice. Yet, strangely enough, *of this hard work and valuable training no mention is ever made, no title given;* and these men of experience and ability go out here and there, just where their fellows need their aid and assistance; but our only means of finding them is by the accidents of personal acquaintance.

For example: A patient desires to go to a strange town, and asks your advice as to whom to consult there; you take the "Directory" and look up the various practitioners in that town, but can form no idea of the men; except that Dr. A. graduated at such a college in such a year. If, however, you could see among them, So-and-So M.D., Harvard, '84, H.G.s. St. Luke's, '86, you would know that he is probably the best man to whom to send a surgical case; or if H.G.M., a medical case. Or, if we see So-and-So, M.D., Physicians and Surgeons, '84, H.G.s. Woman's Hospital, we know that of course, he is the best man to whom to send a gynecological case. The title of H.G., "Hospital Graduate," if adopted, would represent a preparatory fitting in study, experience, manual dexterity, and in all other respects of far greater value to the community than does the average undergraduate course with its M.D., and very often of greater value than five or ten years of general practice. Adding to this indication of H.G. the letter S. for surgical, or M. for medical, would inform one of the nature of his preparatory work; and adding the name of the hospital would still further indicate the character of his experience.

It is but just that these men should have credit for work done. It will be useful to the profession desiring consultation and co-operation, and thus, through the profession, of great advantage to the community, that there be some way of ascertaining these specially trained men.

Moreover, it will be one means of lifting the standard of medical education, and will give a greater stimulus for a hospital training and experience, which is already gaining in value year by year.

Is not the adoption of such titles in our own hands? No legal steps seem to be required. All that appears necessary is that we should by common consent append to our names the abbreviation of H.G.S., or M.—surgical or medical—with the name of the hospital, in the medical registers, directories, etc.

It would be of great service to us if the medical boards of our various hospitals would give official sanction and secure a legal right to such titles. They should be authorized to grant diplomas, as is customary by colleges, or should specify such titles in the certificates or diplomas which they now issue, thus making the hospital course of greater value. If they are advised by their counsel that any legislation is necessary to authorize such a usage, we would earnestly request that they should take steps to procure it. United action in this matter would establish the usage permanently, to the advantage of every hospital alumnus and the medical profession.

I therefore ask of you as Alumni of the Woman's Hospital, that I may have your endorsement to this letter to hospital graduates, if, upon discussion, you favor my plea for the degree of H.G.S. and H.G.M.

The undersigned were appointed a committee of two to take further steps in the matter. They will be glad to receive suggestions pro and con. from hospital graduates and others, with reference to the subject.

Dr. Sherman Van Ness, 91 Madison Avenue,
Dr. George E. Abbott, 19 East Sixty-first Street.

[1] Read before, and endorsed by, the Woman's Hospital Alumni Association.

Progress of Medical Science.

The Cœliac Affection in Children.—The abdominal affections of children are, notwithstanding much good work that has been done in recent years, still involved in a good deal of obscurity, not to say confusion, and we therefore feel especially indebted to Dr. R. A. Gibbons for his paper, with the above heading, in the *Edinburgh Medical Journal* for October and November, in which he gives a concise and lucid description of a malady which has hitherto almost entirely escaped separate recognition. The title he has chosen means, as he is careful to explain, nothing more than that the affection is one of the abdomen, and involves no theory as to its causation or pathology; it was used by Dr. Gee two years ago, in a lecture at the Hospital for Sick Children, Great Ormond Street, London, and subsequently in a paper published in the "St. Bartholomew's Hospital Reports." The malady is one which, without being at all common, is by no means unknown, and many practitioners of large experience will, on reading the description of Dr. Gibbons, be able to recall one or more instances of it. The disease is characterized by the passage of large, loose, white or whitish, frothy, intensely fetid motions; it is an affection of early life, occurring in children under five years of age. The onset is gradual and insidious, pallor and general debility being the most noticeable symptoms. The fetid character of the motions is sometimes the first indication that there is anything wrong with the child; the motions resemble oatmeal porridge, or, as a mother said to the writer not long since, the motions are "exactly like the Chapman's flour he is taking;" generally there is only one action of the bowels a day, but that is extremely copious; there may be two or even three stools daily, and occasional attacks of diarrhœa are not uncommon. The appetite is poor or capricious, abdominal pain is often complained of, the abdomen is generally soft and doughy, the liver may be just palpable, the spleen is not as a rule enlarged, and no enlarged abdominal glands can be felt. Anæmia and great debility are usually very marked features, the child being incapable of any exertion; but, as a rule, there is no wasting; the flesh, however, is not firm as in health, but soft and flabby. The malady is a very serious one, as the children are very liable to die from mere exhaustion, or to be carried off by an intercurrent watery diarrhœa, and relapses are exceedingly prone to occur. Improvement, as a rule, first shows itself in a healthier condition of the

evacuations. The prognosis must, therefore, always be grave, and will depend upon the means and intelligence of the parents, and their ability to carry out all the directions as regards diet, which are so essential for the child's recovery. Nothing is known as to the pathology; no constant changes have been found upon examination after death, either with or without the microscope, nor has microscopical examination of the motions or blood during life added anything to our knowledge of the disease. In treatment, the most scrupulous attention to every detail of diet is essential. Cow's milk must be forbidden, owing to the insoluble character of its casein, and ass's milk should be substituted; cream may be given mixed with scalded whey prepared from cow's milk. For the principal meal, pounded raw meat should be used, either beefsteak or mutton, it matters not which; it should be freed from skin and fat, cut up, finely pounded in a mortar, and rubbed through a hair sieve. It should be given with a little sifted sugar or fruit jelly and a pinch of salt; the amount will vary from one to four tablespoonfuls, according to the age of the child; if this is not well borne, the juice extracted from the raw meat by hydrochloric acid should be given. Plain biscuits or rusks with plenty of fresh butter may be allowed, and a little floury potato; malted foods will also sometimes be found useful. The hygienic surroundings of the child should be carefully attended to, and he should be clothed entirely in silk or wool. As regards drugs, Dr. Gibbons places great reliance on bismuth with compound tincture of camphor, or the compound kino powder for attacks of watery diarrhœa; when there is vomiting as well as diarrhœa, he recommends minute doses of gray powder. The explanation which Dr. Gibbons offers of these cases is very plausible, though, as its author freely admits, it is at present purely theoretical; it is that the secretions of the liver and pancreas and the intestinal juices are deficient. A diminished supply of bile is quite consistent with the colorless character of the stools and with their fetor, for, as is well known, the bile is a great antiseptic; the fermentation which they are thus permitted to undergo in the alimentary canal will fully account for their extraordinary bulk. A deficiency in the pancreatic juice would probably have the same effect, and it is consonant with this theory that starchy foods are exceedingly badly borne by the sufferers from this disease. Dr. Gibbons therefore suggests that owing to some unknown influence acting through the nervous system, there is inhibition of the secretions of the liver and pancreas, and probably also of the glands of Brunner and follicles of Lieberkühn, the result being the production of the motions which are characteristic of this disease.—*The British Medical Journal.*

Rectal Administration of Iodide of Potassium.—Professor Köbner has found this form of application useful in two directions, (1) locally, and (2) constitutionally, where the drug exerts its influence on distant organs as well. For many years the iodide has been in use in the form of suppository in chronic prostatitis, some employing it as an inunction into the rectal mucous membrane by means of the finger. The dose usually given for this purpose is three grains to the suppository. To this Köbner has added other substances. Thus, where there was considerable sensitiveness, or a lobe of the prostate painful, or reflex tenesmus present, extract of belladonna (gr. ½) once a day, or bromide of potassium (gr. 4) was of great assistance. Where the suppository was rejected in consequence of irritability of the mucous membrane, small enemata of iodide with bromide, if necessary, or, in cases of obstinate prostatic affection, pure tincture of iodine, nine to ten drops, were substituted. The local application was likewise useful in syphilitic intestinal ulcers with profuse secretion from the rectal mucous membrane. The rapidity with which the iodide appeared in the saliva and urine in these prostatic cases showed its absorption from the intestine to be almost as ready as when given by the mouth, and suggested this method of administration where constitutional effects are desired, for instance, in syphilis. Such a proceeding was therefore adopted in a case where the least trace of iodide by the stomach produced very severe iodism, rendering the continuation of the drug unbearable. The result was satisfactory, fifteen-grain doses being borne with complete success. This method was also found valuable in cases of syphilis where a large amount of iodide was required to be introduced rapidly, and in syphilis of the brain where difficulty of swallowing existed.—*Therapeutische Monatshefte.*

A New Method of Treatment in Prolapse of the Rectum.—M. Verneuil, at the Société de Chirurgie, described a new method of treating rectal prolapsus, by attaching the adhesions of the posterior surface of the rectum to the corresponding portion of the pelvis (*The British Medical Journal*). After reducing the intestine the portion of the anal orifice to be excised is determined. A triangular fragment is then traced by means of two transverse incisions passing through the posterior portion of the anal orifice, and two others passing from the extremities of the two first to the point of the coccyx. When the rectum is exposed four Florence horsehairs are introduced into its wall, and placed at intervals of 1½ ctm. from each other. The intestine is raised by drawing all the threads toward the concave portion of the sacrum. In order to fix the intestine permanently the threads are drawn through the skin to the right and left of the wound, at 4 ctm. distant from the median line, with Emmet's needle. Thus four handles in the form of a **U** are contrived, which may be tightened at will. The fragment traced as above described is then detached at the base. The ano-coccygeal wound is closed by transverse sutures. A large drain is placed at the back of the rectum, in order to form a track which will sustain and increase the adhesions. The anal orifice is contracted by suture with Florence horsehair. M. Verneuil obtained good results, in a case which had lasted four months, with this method, which he names "posterior rectopexia." At the same meeting M. Delens recommended the following method in cases of voluminous prolapsus. He applies fuming nitric acid to the tumor, reduces and plugs the anus, and administers opium in order to prevent the occurrence of stools during at least eight days. M. Schwartz has obtained good results by making scores with the thermo-cautery on the projecting intestine, and pushing backward the anus toward the coccyx, the old orifice being closed by perineorrhaphy. M. Segond considers that ablation should be practised in order to perform colopexia with success.

A New Heart Disease.—The Paris correspondent of the *British Medical Journal* writes: "M. Renaut, in a paper sent to the Academy of Medicine, describes a new form of cardiac lesion which he terms 'myocardite segmentaire essentielle.' It is a special form of lesion of the muscular cardiac tissue, most frequently met with among old people, especially those who are prematurely senile, likewise among drunkards. The fibres become separated, owing to degeneration of the connective tissue which unites the bundles; the substance of the muscular fibre is also attacked. The heart is not hypertrophied, nor is there fatty degeneration or arterial sclerosis, the myocardium is of gray color. The necropsy shows that the left ventricle is flattened. The sphygmographic tracings are not those of other known cardiac affections. The symptoms are œdema of the ankles, stasis, and pulmonary congestions, which should be treated by digitalis and ergot of rye."

The Open-Window Treatment of Phthisis, as recommended by Detweiler, has recently received the attention and commendation of a French physician, M. Nicaisen, who has tried it. He states that with open windows, when the out-door temperature ranges from 28° to 58° F., the air in his room ranged only from 52° to 62° F.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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SANITATION ON OCEAN STEAMSHIPS.

We referred recently to the strange indifference of the managers of the various steamship lines to the health of their patrons, so plainly manifested by their neglect to provide a satisfactory medical service on their vessels. The companies have no excuse to offer for this neglect, and they can have none, for the remedy is wholly within their own hands. There are competent men enough to fill these positions, but they are apparently not wanted, for if they were there would be some inducement held out to them to come.

But it would not be sufficient to secure competent surgeons—they should also be entrusted with the control of sanitary matters in the vessel. And then there should be suitable provision for the care of the sick and the isolation of those with contagious disease. There are supposed to be hospitals on every ship, but unfortunately these are not infrequently diverted to other purposes, so that, when needed, they are found to be unavailable. Mr. Charles H. Leet, formerly a surgeon in the employ of one of the transatlantic steamship companies, has published a pamphlet in which he relates some flagrant instances of disregard of the law relating to the ship's hospitals by the officers of the vessel. On one occasion the female infectious hospital had been illegally occupied, and Dr. Leet was in consequence forced to put a Sister of Mercy, ill of measles, in the male hospital, which was leaky, and where the patient was forced to listen to the ribald conversation of the men bunking close to the hospital under the forward turtle-back. At another time the purser occupied one of the hospitals, having let his own room to a passenger. These instances occurred in 1886, and it might be thought that perhaps such abuses no longer existed. But in a letter written to *Seafaring*, a nautical journal published in Liverpool, under date of February 22, 1890, Dr. Leet shows that there is still room for reform, for in 1889 the hospital on one ship was used for steerage passengers on the western trip, and sick women had to be treated in their own berths and under the most unfavorable circumstances.

That this misappropriation of the ship's hospitals is not discouraged by the company is shown by an official order stating that "the hospitals are to be under the surgeon's charge only when occupied by patients, at which time he will be responsible for their cleanliness and proper ventilation. When unoccupied they are to be at the captain's disposal." It is the boast of the managers of one of the largest of the transatlantic lines that they have never lost a life by accident at sea. Have they never lost a life by disregard of sanitary measures at sea? If not, they are to be congratulated upon their exceptional good luck. During the coming summer there will be many physicians crossing the Atlantic to be present at the International Congress in Berlin, and they could not employ their leisure while at sea in a more useful way than in investigating for themselves the question of ship sanitation, and in noting how nearly the officers of the vessel upon which they may be sailing comply with the law regulating hospitals and air space in the cabins and steerage. That the law is evaded in numerous instances there can be no question, and since the majority of ocean travellers are either Americans or emigrants intending to become Americans, it closely concerns us to see that such violations of sanitary rules shall not occur. It is both unpatriotic and criminal to suffer the health and the lives of Americans to be jeopardized for nothing better than to fill British pockets.

HOW IT LOOKS TO AN OUTSIDER.

Familiarity does not always breed contempt, but it sometimes blunts our sense of the ludicrous, and prevents us from seeing anything out of the way in what to a stranger may seem most comical. We are so accustomed to the ways of the average dispensary official, and to his eagerness to extend the sphere of usefulness of his institution (in order to please the old subscribers to the "charity" and to attract new ones) that, although we may deplore the injury he does to his brother physicians, as well as to the poor whom his dispensary is supposed to help, we do not always see the funny side of it. But a stranger, to whom such doings are a novelty, looks upon them in a somewhat different light and sees the ridiculous as well as the more serious side.

Dr. O. B. Will recently entertained the Peoria City Medical Society with an account of what he saw and heard during a visit to New York. He was very well pleased with his trip, and said many complimentary things of us, but he could not help telling of an absurd chase after a woman who was so fortunate as to have a rare affection of the cervix uteri. She put in an appearance, he said, at one of the clinics; but as "the case was an interesting one, before the necessary operative procedure was resorted to, it was determined to make a drawing of the parts for publication, and to that end the patient was requested to call the next day. In the meantime, however, the authorities of other hospitals heard of it, and solicitors from no less than three rival institutions were sent to her. One of them succeeded in prevailing upon her to go to his favorite, and they actually sent a carriage for her and carried her off in triumph, and withal in regal style."

Comment on the above is hardly needed, but we will see how it struck Dr. Will, so that we may the better learn how we look to our visitors. "To the average man," he says, "professional or non-professional, such actions seem ridiculous, and unworthy the connivance of a self-respecting surgeon. And yet, what is one going to do about it? In a city where large sums are expended annually by members of the profession in search of such

knowledge, there is bound to be the keenest competition in supplying the demand, and to that end patients are an absolute necessity. It is in its tendencies unquestionably vastly demoralizing to both the profession and the public, virtually paying, as it does, a premium on dishonesty and thriftlessness, and depriving deserving younger and less notable practitioners of moderate fees which many of those who avail themselves of these clinical advantages are abundantly able to pay. The fact is, that it is almost impossible any more for a man to secure a practice in the city of New York, in an ordinary lifetime, without either associating himself with some established practitioner, or first connecting himself in some menial capacity with one of the many clinics or dispensaries, and thus gradually, through many years of toil, work himself into acquaintanceship with those whose independence of feeling will not permit them to seek the aid of public charity."

THE BEST STETHOSCOPE.

Very little advance has been made in stethoscopes since the year 1852, when Dr. Cammann, of this city, perfected his binaural instrument. This is beyond all question the most serviceable form of stethoscope; it has become almost universally adopted in America, and it is much used in England.

In a recent article by Dr. P. K. Pel, of Amsterdam, entitled, "What Stethoscope should the Physician Use?" (*Berlin. klin. Wochenschrift*), the various forms of this instrument are discussed, and the conclusion reached that the binaural stethoscope of Cammann is the best. He deplores the fact that it is yet unknown, or not used, in Germany. We trust that Dr. Pel's article will promote the spread of the American stethoscope.

COLUMBUS AND SYPHILIS.

The forthcoming celebration of the discovery of America by Columbus will doubtless give rise to queries from cynical philosophers as to whether this discovery was really so supreme a good to mankind. America is still regarded as an uncultured province by many more or less lettered Europeans, and one of them has asserted that after subtracting tobacco and quinine it would be difficult to find any essential good that has come from the Western Hemisphere. But of all the indictments which could possibly be drawn against the new continent, none could be seriously considered beside that of its having infected the rest of the world with syphilis.

Two facts are believed to be reasonably well established in this connection, viz., that syphilis existed in America before Columbus discovered it, and that syphilis first became widely spread and noticed in the latter part of the fifteenth and early part of the sixteenth century.

The general belief has been, and is now, that syphilis existed in a quiescent form before this period in the southern portions of Europe. But it has seemed difficult to understand why syphilis should have been quiescent up to A.D. 1494, while it has never been so in the four hundred years since that time.

The existence of a pre-Columbian syphilis has been denied by Dr. J. P. MacLean (*American Medical Journal*, August, 1884); but lately has been learnedly affirmed by Dr. Gust. Brühl (*Cincinnati Lancet and Clinic*, March 8, 1890), who says, among other things, that among the Mexican Indians there are seventeen different names for syphilis.

It is probable that we shall never reach a certainty with regard to this question.

It may be borne in mind, however, that, heretofore, almost all the students of this problem have been Europeans, possessed with a little natural bias in favor of the American origin of the disease.

It is estimated that in cities one out of every fifty or sixty persons has syphilis or has had it. The amount of pain, misery, and sorrow caused by this disorder, and its pernicious hereditary effects, all combine to make it far the worst scourge which has ever been placed upon humanity. If Columbus were responsible for the syphilitic millions of the last four hundred years, we would feel that the glory of his magnificent achievements was sadly dimmed.

THE HOT SPRINGS OF ARKANSAS.

The Hot Springs of Arkansas have acquired a very wide reputation for the relief of syphilis and rheumatism. This repute of the Springs, however, is much better among the laity than among the physicians in general. There is a well-defined belief, for one thing, that the commercial side of the practice of medicine reaches its highest development at this resort, and that the physicians there do not, as a rule, possess scientific attainments, or more than a very narrow technical skill. It is quite agreed also that the waters there have no medicinal properties apart from their temperature.

Nevertheless, there must be some fire where there is so much smoke; and we have read with much interest the discussion on the value of the Hot Springs treatment which recently took place before the Dermatological Society of this city. The speakers included Drs. E. L. Keyes, J. A. Fordyce, P. A. Morrow, Piffard, Bronson, Allen, Bulkley, and others.

The weight of opinion seemed to be that the Hot Springs did not answer in the second stage of syphilis; that in the third stage, when the patients were cachectic and anæmic so that they could not take large doses of mercury and iodide at home, a sojourn at the Springs might be efficacious. Even then, however, the treatment, which is heroic, is one that is not always without danger.

Some of the speakers thought that, by the use of hot baths and hot drinks at home, just as good results could be accomplished as in Arkansas.

ANEURISMS IN CHILDHOOD.

There are certain diseases which are interesting because they are rare, and others because they are frequent. Among the former class belong aneurisms in children. Dr. A. Jacobi publishes an article upon this subject in the *Archives of Pediatrics* for March. This article, though exhaustive, is nevertheless short, for it appears that only twenty-nine cases of extracranial aneurism in early life have been reported, the last being one by Dr. Lehlbach, of Newark, N. J., and published in Dr. Jacobi's article.

It seems that the causes of aneurism in childhood are almost as numerous as the cases. In Dr. Lehlbach's

case the trouble was apparently due to tubercular infection; in other instances it has been due to abscess, embolism, endarteritis, congenital incompetency of the walls of the blood-vessels, and hyaline degeneration of the vessel-walls.

Aneurisms in childhood affect the cardiac and pulmonary vessels as well as the aorta; they are sometimes multiple, and generally do not reach a large size.

On the whole, it appears that aneurisms in childhood are almost always symptomatic of some serious local or constitutional disorder, such as tuberculosis or cardiac disease. They do not often develop as single dilatations, running a chronic course and acting as the chief focus of disease and the dominant cause of the morbid symptoms.

ENLARGEMENT OF THE MEDICAL PART OF THE PENSION BUREAU.

A BILL has passed the United States House of Representatives providing for the appointment of thirty more medical examiners in the Pension Bureau. These appointments are to be made without regard to the Civil Service Rules.

The enlargement of the medical force of the Pension Bureau is much needed, as we have already called attention to this fact. The placing a part of the appointments under the Civil Service Rules and part under the "spoils" method is much to be deprecated. Already much criticism has been aroused by the character of the appointments in some places; the medical part of the Pension Service ought to be composed of reputable medical men, not of political "docs."

News of the Week.

Dr. Frederick J. Leviseur has been appointed Visiting Dermatologist to the Randall's Island Hospitals.

Convicted for Pretending to Conduct a Hospital.—Dr. Theodore S. Wilcox, an octogenarian who ran a boarding-house in Brooklyn, and under the name of the Sanitarium Hospital and Dispensary had fraudulently got $1,726.55 from the excise funds, was convicted recently, and received a mild punishment in view of his years.

Prize for Physiological Work.—A member of the American Physiological Society has offered $250 for the best research or researches bearing on the subject stated below, viz.: "The regeneration of several spinal nerves in mammals, including man, with special reference 1, to the reunion and return of function in such severed nerves, without degeneration of the distal portion; 2, to the possibility of union, with return of function, between the central portion of any one spinal nerve and the distal portion of any other (*e.g.*, the central portion of the ulnar with the distal portion of the median)." Conclusions to be supported, so far as possible, by histological as well as physiological evidence. The competition is limited to residents of North America, and the prize will be awarded for original work done after January 1, 1890. The award will be made by those persons who on October 1, 1891, constitute the Council of the American Physiological Society. For the present, communications concerning prize should be addressed to H. Newell Martin, Secretary, Johns Hopkins University, Baltimore, Md.

Dr. William H. Triplett, a prominent physician and surgeon, died at Woodstock, Va., March 27th, at the age of fifty-three. For a time he resided at Washington, D.C., and London, England.

Association of American Physicians.—Preliminary programme of the Fifth Annual Meeting of the Association of American Physicians, to be held at the Army Medical Museum Building, Washington, D.C., on May 13, 14, and 15, 1890: The President's Inaugural Address, Samuel C. Busey, Washington, D.C. Consideration of the Revised Constitution. *Discussions:* "Disturbances of Sleep," Referee, S. Weir Mitchell, Philadelphia, Pa.; Co-referee, Charles F. Folsom, Boston, Mass. "Methods of Diagnosis in Diseases of the Stomach," Referee, Francis P. Kinnicutt, New York, N. Y.; Co-referee, F. C. Shattuck, Boston, Mass. *Papers:* "Inflammations of the Appendix and Cæcum and the Duty of the Physician Regarding Them," by Norman Bridge, Chicago, Ill.; "Anæsthetic and Non-Anæsthetic Hysteria," by Charles L. Dana, New York, N. Y.; "Seizures Characterized by Shock and Loss of Consciousness," by Israel T. Dana, Portland, Me.; "The Diathetic Causes of Renal Inadequacy," by I. N. Danforth, Chicago, Ill.; "Antisepsis in Midwifery," by William T. Lusk, New York, N. Y.; "Varicose Aneurism of the Arch of the Aorta," by William Pepper and J. P. C. Griffith, Philadelphia, Pa.; "Natural History of Typhoid Fever," by James E. Reeves, Chattanooga, Tenn.; "What Can and Should be Done to Limit the Prevalence of Tuberculosis in Man?" by Edward O. Shakespeare, Philadelphia, Pa.; "Migraine," by Wharton Sinkler, Philadelphia, Pa.; "Etiology of Pleurisy, Especially in its Relation to Tuberculosis," by A. A. Smith, New York, N. Y.; "Report of Cases of Angio-Neurotic Œdema," by Samuel B. Ward, Albany, N. Y.; "Notes of a Case of Acromegaly," by J. E. Graham, Toronto, Can.; "A Case of Acute Pancreatitis," by R. H. Fitz, Boston, Mass.; "Demonstration of Pathological Specimens," by W. T. Councilman, Baltimore, Md. Those who are to contribute papers may send to the Secretary, Dr. Henry Hun, 33 Elk Street, Albany, N. Y., the names of members whom they wish to have invited to participate in the discussion; and by sending their papers to the Recorder, Dr. I. Minis Hays, 266 South Twenty first Street, Philadelphia, Pa., as early as possible and at a reasonable time prior to the meeting, they can receive five or six copies in type, which they can forward to those members whom they wish to have participate in the discussion. There will probably be time at the meeting for the reading of two or three papers more than those on this programme. Members who desire to contribute such papers are requested to send the titles of them to the Secretary. The constitution provides that papers shall not exceed twenty minutes in the reading.

The State Care of the Insane.—The bill for the care of the insane in State asylums as against county poor-houses has as last passed the Senate, to the great joy of every citizen not interested in jobbing county politics. The proper place for the treatment of the insane is in a well-equipped State hospital—in a poor house, never!

How to Describe a Medical College Commencement.—We submit the following for use by esteemed contemporaries in writing up medical college commencements. It can be cut out, the blanks filled in and used indefinitely: "The closing exercises of that now widely famous institution, the —— —— Medical College, were celebrated with unusual brilliancy and success on —— —— The graduating class was very large, and it was generally agreed to be one of unusual talent and of remarkable professional promise and physical appearance. The fine, manly appearance of the young men, as they received their diplomas and bouquets, excited much enthusiasm among the ladies. The Hall was expensively decorated with rare exotics, whose odors, mingling with the eloquence of the orators and the music of the string band, aroused the profoundest sensations of delight among the audience. The opening prayer by Rev. —— —— was a burst of devotional eloquence, and the address to the class by the orator of the evening, Hon. —— ——, was filled with felicitous thoughts, beautiful and appropriate imagery, and quite brought down the house. The address in full appears on p. ——. The sentiments of the valedictory were singularly fitted to the occasion, and evidently much affected the eminent professors, who were thus to lose so many devoted pupils. The exercises closed with a stirring march from the band and the benediction. Altogether the occasion is one long to be remembered by the participants. Long may the —— —— Medical College flourish in its noble work!" No copyright.

Kansas City Medical College held its annual commencement March 10th, and conferred diplomas upon a class of sixteen.

The University of Nashville, Medical Department, held its annual commencement February 26th, and graduated a class of 138 students.

Two Failures of the Pasteur Treatment have recently been reported.

Doctor's Daughters as Servants.—A writer upon "Educated Women of the Upper Classes as Servants," in an evening paper interviewed an unnamed person on the subject, and elicited the following: "My servants are now always ladies," says gossip to gossip. "I have one a housemaid, a charming girl, who is the daughter of a *medical man*, and all of whose male relations are professional men, and who does her work as thoroughly and as well as any ordinary servant could be expected to do it."—*Hospital Gazette.*

The McKinley Tariff Bill has some features that will interest medical men. It allows the importation free of books and pamphlets printed in any language but the English, and of periodicals in all languages. Opium is put upon the free list.

Recognition of Veterinarians.—The French Government, says *The Journal of Comparative Medicine*, by a decree of the Minister of Agriculture, has ordered that the holders of the diplomas given by the American Veterinary College may be, by virtue of this diploma, authorized to compete for the French diploma after having passed in one of their schools the time assigned to them, according to their degree of instruction, by the council of professors in the school in which they wish to follow their course.

American Medical Association.—A meeting of the general committee of arrangements for the meeting of the American Medical Association was held in Nashville on the evening of March 20th. It was decided to have a general social entertainment at the Capitol, May 20th, the day on which the association convenes, in order that the visitors and citizens may meet and become acquainted. Dr. Morgan, secretary of the committee on halls, hotels, etc., reported the work of the committee complete, and that the hotels would be able to accommodate two thousand five hundred delegates. The general association meetings will be held at the Vendome in the forenoons, and the section meetings will be held in the afternoon in various halls throughout the city. The Medical Editors' Association will meet in annual session May 19th, in the lecture room of the Dental Department of Vanderbilt University. The prospects were reported flattering for a full meeting of the association. It is thought that there will be between two and three thousand visiting physicians present.

Bicycling for Young People.—Dr. B. W. Richardson discusses this subject in a recent issue of the *Æsclepiad.* He admits that since he first warned the public of the dangers of immoderate cycling, changes have taken place in the construction both of bicycles and tricycles which materially modify the old drawbacks. He is still, however, of opinion that cycling should never be practised by boys and girls, since it differs from other exercises in the fact that it molds the bodily framework, as it were, to its own mode of motion; and riders in course of time almost invariably acquire what he calls "the cyclist's figure," which is not graceful, and is not indicative of the possession of perfectly balanced powers. Of two things at least he is satisfied. They are that the temptation of competition is to an earnest and practised cyclist a "demon of danger," and that the systematic pursuit of cycling should never be fully commenced before the age of twenty-one.

Night Medical Service in Paris.—During the year 1889 the total number of patients seen by the members of the Paris Night Medical Service was 8,544, as against 7,408 in 1888. Of this number 2,684 were men, 4,339 women, and 1,521 children. In the month of December, when the influenza epidemic was at its height, the number of patients seen was 1,250.

The Thumb and Lunacy.—The following is an interesting specimen of the rubbish that circulates as "popular science" in the columns of the daily papers. The *Philadelphia North American* says: A physician in charge of a well-known asylum for the care of the insane recently said to the writer: "There is one infallible test either for the approach or the presence of lunacy. If the person whose case is being examined is seen to make no use of his thumb, if he lets it stand out at right angles from the hand, and employs it neither in salutation, writing, nor any other manual exercise, you may set it down as a fact that that person's mental balance is gone. He or she may converse intelligently, may in every respect be guarding the secret of a mind diseased with the utmost care and cunning, but the tell-tale thumb will infallibly betray the lurking madness which is concealed behind a plausible demeanor."

Cremation in Paris.—The practice of cremation is so largely on the increase that it has been decided to build a new furnace at the cemetery of Père-la-Chaise, Paris. The furnace at present in use is kept burning night and day, a system which permits of the complete destruction of the corpse in less than an hour.

The Late Professor Volkmann's "Sammlung Klinischer Vorträge" is to be continued under the direction of V. Bergmann, Erb, and Winckel.

A Verdict for the Surgeon.—"Physicians in the western part of Massachusetts," says the *Boston Medical and Surgical Journal*, "are much interested in the case lately tried in Springfield, of Homer C. Ross against Dr. Wallace H. Dean, of Blandford. The plaintiff asserted that he had lost the use of an arm because it was improperly set by Dr. Dean after it was broken in an accident. But the best-known doctors of the vicinity testified that the treatment was all right and that the arm could be used. Dr. Francis Bacon, of New Haven, extended the man's arms and held them up for a time, when he suddenly stopped supporting them. The fact that they remained extended long enough to exhibit the absence of paralysis was conclusive. The result was that Judge Barker instructed the jury to bring in a verdict for Dr. Dean without leaving their seats."

M. Pasteur and the Rabbit Pest in Australia.—In respect to a statement alleging that the Australian Government had refused to allow M. Pasteur the reward of £20,000 offered to the person who should suggest the best plan for the destruction of the rabbits that infest that colony, M. Pasteur is reported to have said that this was not so, for the simple reason that he had never sought it, and that, owing to circumstances over which he had no control, he could not claim such a reward. He had sent M. Loir, his nephew, and another of his assistants to Australia in order to try the experiments which he had made in his laboratory on a more extended scale. The assistants returned to France after a few months, discouraged. According to M. Pasteur, they were not allowed by the Commission appointed by the Australian Government to make any important experiments. This Commission permitted the assistants to inoculate a few rabbits, and the experiments were successful enough to warrant a further extension of the authorization; but all sorts of delays and adjournments were caused, until the assistants abandoned all hope of being able to carry out the purpose for which they had undertaken the voyage to Australia.—*British Medical Journal.*

International Medical Congress, Section on Obstetrics and Gynecology.—The Committee of Organization for the Section of Obstetrics and Gynecology consists of Professors Fritsch (Breslau), Gusserow (Berlin), Hegar (Freiburg), Hofmeier (Würzburg), Kaltenbach (Halle), Löhlein (Giessen), Martin (Berlin), Olshausen (Berlin), and Winckel (Munich). The following subjects are proposed for the morning meetings (10 to 1): 1. "Antisepsis in Midwifery;" introduced by Galabin (London); discussed by Stadfeldt (Copenhagen), Slavijanski (St. Petersburg), Fritsch (Breslau). 2. "Artificial Premature Labor, its indications and methods;" introduced by T. Parvin (Philadelphia); discussed by Calderini (Parma), Macan (Dublin), Dohrn (Königsberg). 3. "Vaginal Extirpation of the Uterus;" introduced by Williams (London); discussed by Pozzi (Paris), Schauta (Prague), Olshausen (Berlin). 4. "Electrolysis of Myoma;" introduced by Apostoli (Paris); discussed by T. Keith (London), E. Cutter (New York), Zweifel (Leipzig).

Women's Opportunities in Belgium.—On January 30th the Chamber of Representatives, acting in concert with the Ministry, passed an enactment that henceforth all university lectures and courses of instruction, together with all academical degrees, shall be open to women. Moreover, whereas they have hitherto only been allowed to practise certain branches of the healing art, both medicine and pharmacy are now thrown open to them without restriction.

The Riberi Prize of Twenty Thousand Francs has been given by the Academy of Medicine of Turin to Professor His, for his embryological studies.

The National Association of Railway Surgeons holds its third annual meeting in Kansas City, Mo., May 1, 1890.

Attacking Vivisection Again.—The last issue of *The Forum* contains an article by one Dr. Caroline White, attacking the practice of vivisection. The author says nothing new, and supports her opinions by statements which are, as a rule, either unsubstantiated or totally false. The article does not appear to us to deserve serious consideration.

At the Pasteur Institute in this city it is stated that already three persons, who are supposed to have been bitten by rabid dogs, have been inoculated.

Meetings of State Medical Societies.—The annual meetings of State Medical Societies are announced as follows (*New York Meaical Journal*): Alabama, Birmingham, April 8th; Florida, Ocala, April 8th; Tennessee, Memphis, April 8th; California, Los Angeles, April 15th; Georgia, Brunswick, April 16th; Iowa, Des Moines, April 16th; Mississippi, Jackson, April 21st; Maryland, Baltimore, April 22d; Texas, Fort Worth, April 22d; South Carolina, Laurens, April 30th; Illinois, Chicago, May 6th; Kansas, Salina, May 13th; Louisiana, Baton Rouge, May 13th; Nebraska, Beatrice, May 13th; Arkansas, Little Rock, May 14th; Indiana, Indianapolis, May 14th; Kentucky, Henderson, May 14th; Washington, Spokane Falls, May 14th; Michigan, Grand Rapids, May 20th; Missouri, Excelsior Springs, May 20th; North Carolina, Oxford, May 27th; Connecticut, New Haven, May 28th; Ohio, Columbus, June 3d; Wisconsin, Milwaukee, June 4th; Delaware, Wilmington, June 10; Maine, Portland, June 10th; Massachusetts, Boston, June 10th; New Jersey, Schooley's Mountain, June 10th; Pennsylvania, Philadelphia, June 10th; Dakota, Sioux Falls, June 12th; Rhode Island, Providence, June 12th; New Hampshire, Concord, June 16th; Colorado, Denver, June 17th; Minnesota, St. Paul, June 19th; Vermont, Rutland, June 26th (semi-annual); Virginia, Rockbridge Alum Springs (to be announced); Vermont, Montpelier (annual), October 9th; New York (State Medical Association), New York, October 22d. The American Medical Association meets at Nashville, Tenn., on May 20th to 23d. Announcements of the Oregon and West Virginia Societies have not been received.

Women Physicians in India.—At a meeting of the Alumnæ Association of Rutgers' Female College, held recently in this city, Dr. Jessie B. Woodside delivered an interesting lecture upon the aspects of medical missionary work among the women of Hindoostan. Dr. Woodside has lived in India, practising as a medical missionary, for three years.

International Medical Congress. — The Hamburg-American Packet Company has issued a circular announcing special rates for physicians attending the Tenth International Medical Congress. On the express steamers sailing July 17th and 24th, the rates for the round trip will be $150 to $200; on the Wieland, sailing July 19th, the rate will be from $90 to $126 for the round trip, and on other vessels of the regular service sailing prior to this date the rates are $93.50 to $127.50. The Congress will be held on August 4–9, 1890.

An Unusual Colorado Winter.—The past winter in Colorado has been a surprise to the older residents of the State. The rains of November, succeeded by snow in December, and the paucity of clear days, have caused misgivings lest the type of the climate shall be changing from dry to humid, and from bright to dismal.—*Journal of American Medical Association.*

Dr. Edwin Arius Kilbourne, Superintendent of the Illinois Northern Hospital for the Insane at Elgin, died February 27, 1890, at that place, in the fifty-third year of life.

Iodide of Sodium and Iodide of Potassium.—Dr. Laborde, of Paris, has just read a memoir before the Academy of Medicine, in which he contends that iodide of sodium has a different action from iodide of potassium and cannot be properly substituted for it. Iodide of potassium augments the blood-pressure while the sodium compound scarcely modifies it. Iodide of potassium has a convulsive action also which the iodide of sodium does not.

Monument to Dr. Philippe Ricord. —A committee has just been organized, under the presidency of Professor A. Fournier, with the view of raising a monument to the memory of the late Dr. Philippe Ricord.

A Philadelphia Physician in Africa.—Dr. W. L. Abbot, of Philadelphia, has recently arrived at Zanzibar, from the interior of East Africa, where he has been engaged in making explorations and scientific collections, some of which are for the Smithsonian cabinets. The most frequent ailment which Dr. Abbot was called on to treat was leg ulcer.

The Origin of Typhoid Fever.—Dr. Uovo, and Messrs. Rodet and Roux have made a series of bacteriological studies leading them to the conclusion that the bacillus of typhoid fever is only the bacillus coli communis, rendered virulent by influences outside the body. They believe, therefore, that water contaminated by fecal matter not necessarily typhoidal may give rise to typhoid fever.

The Brooklyn Institute.—A new section, to be known as the department of psychology, has been formed in the Brooklyn Institute, the purposes of which are the consideration and discussion of ethical and philosophical questions. Clergymen and physicians are expected to make up the greater part of the membership.

"**Rachilysis**" is the name given by Mr. Barwell to his method of treating spinal curvature. It is described as follows: At the sides of the room he fitted an arrangement of rings and hooks from which the force worked. One padded band with loop attached was placed on the apex of the lumbar curve. The patient was inclined over against the restraint of the band until that curve was annulled or reversed, and the trunk was held in that position by a lanyard under the left axilla. Another belt, with the loop in the contrary direction, was placed on the apex of the dorsal curve. A system of pulleys was hitched to the loop, a wooden strut being placed between the laps of each band so as to prevent constriction. Mr. Barwell showed the action of his appliance on two boys from the Cripples' Home in Kensington, pointing out how their backs became straighter, and that the process was quite painless.

A New Hospital in Omaha.—Ground has been purchased in Omaha, Neb., by Bishop Newman of the Methodist Church, for the erection of a hospital. There are at present but two hospitals in that city—St. Joseph's and the Childs—although a third is building.

Regulating Fees for Medical Services.—A man named Wolfe has introduced a bill in the Washington legislature which seeks to regulate physicians' charges. The bill allows one dollar for each visit, and fifty cents a mile when the patient lives at a distance, and for a confinement ten dollars may be demanded, but the bill omits a guarantee of payment. Senator Wolfe seems to be out of place among lawmakers, where a modicum of common sense is desirable if not necessary.

A Change of Name.—It is proposed to change the name of the Norristown (Pa.) Hospital and Dispensary to the Charity Hospital of Montgomery County. It is alleged that under the present name the institution is frequently confounded with the Norristown Hospital for the Insane, and the other townships and boroughs in the county object to the name as being too local.

Ten-minute Headache Cures.—A protest has been made in Philadelphia against the sale of antipyrine, either openly or disguised as certain headache cure, by the druggists of that city. Many cases are cited in which very alarming symptoms have followed the taking of this "cure," one very nearly resulting in fatal collapse.

Missouri Valley Medical Society.—This society was organized in St. Joseph, Mo., and held its first meeting in that city in March, 20th to 22d. The election of officers resulted in the choice of Dr. J. M. Emert, of Atlantic, Ia., president, and Dr. J. C. Carter, of Grand Island, Neb., secretary.

A Hospital for Roxborough.—Mr. J. Vaughn Merrick, has recently given $10,000 for the establishment of a small hospital in Roxborough, Philadelphia, Pa. The hospital is to be connected with St. Timothy's Episcopal Church, and will be managed by the deaconesses attached to the parish.

In Honor of the Benzol Molecule.—A Chemical Jubilee will be celebrated in Berlin on April 11th, when the twenty-fifth anniversary of the discovery of "the structure of the benzol molecule" by Professor Kekulé, of Bonn, will be celebrated with appropriate pomp and circumstance.

To Prevent Tuberculosis.—It is proposed to appoint veterinary inspectors in Pittsburg, who shall be empowered to condemn all tuberculous meat, a reasonable compensation being paid to the owners of animals found in that condition; and who shall visit all milk dairies and condemn every cow found suffering from tuberculosis, particularly those with mammitis. It is also proposed to make it illegal to breed from tuberculous animals.

The Moses Taylor Hospital.—Mrs. George C. Lewis, daughter of the late Moses Taylor, has given an additional $30,000 for the endowment of the Moses Taylor Hospital in Scranton, Pa. The endowment now consists of $500,000, including $100,000 given by Mrs. Percy Pyne, another daughter of M. Taylor, and $50,000 by George C. Taylor. Work was commenced on this building about four years ago, but for various reasons it has been delayed, but it is probable now that it will be opened early in the summer.

Illegal Practice of Dentistry.—There are said to be nearly two hundred dentists in Philadelphia who have failed to comply with the registration law. All persons practising dentistry in the State are required to be graduates of some approved college or else to pass an examination before the State Dental Examining Board. The dentists are furthermore required to register their diplomas or certificates in the office of the Recorder of Deeds. The county dental society proposes to present the names of all delinquents to the grand jury, and two have already been indicted upon information furnished by the society.

A County Physician Wanted.—A coroner's jury at West Brighton, S. I., have recommended the appointment of a county physician, in consequence of the death of a poor woman without medical attendance.

A Portrait of Dr. Bigelow.—The artist Vinton has recently completed a portrait of Dr. Henry J. Bigelow, which is to be placed on the walls of the Boston Medical Library.

The Law concerning Hypnotism in Sweden.—The question whether a hypnotized person who acts at the suggestion of others is responsible for his actions is considered in Sweden to depend upon the fact whether he knew of the danger to which he exposed himself in being hypnotized, and submitted to it voluntarily. If so, by the law of that country, he is held responsible, otherwise not.

Recent Graduates.—Commencement exercises have been held recently in the University of Buffalo; Western Pennsylvania Medical College, Pittsburg; Rush Medical College, and College of Physicians and Surgeons, Chicago, Ill.

Blaming the Ship's Surgeon.—An action has been brought against the Allan Royal Mail Steamship Company for $10,000, by a passenger who fell down an open hatchway and broke his leg. His complaint is directed more particularly against the surgeon of the ship, whom he charges with not having paid proper attention to his injuries.

The Influenza has reached Persia, and most of the inhabitants of Teheran, including many of the Shah's household, are suffering from it.

The Douglas County (Neb.) Medical Society was recently reorganized in Omaha. The former county society went to pieces, it is said, in consequence of too much politics and personal ill-feeling between the members. It is hoped that more charity will prevail in the present organization.

A Thank-offering.—Lady Howard de Walden has expressed her intention of endowing, at a cost of £10,000 or £12,000, a ward at the West Kent Hospital, at Maidstone, as a thank-offering for her recent recovery from a serious illness.

Death of Dr. John P. Davidson.—Dr. John Pentard Davidson, one of the oldest practising physicians in New Orleans, died there on March 30th, of pneumonia, following an attack of influenza. He was a native of Mississippi, eighty-two years of age, and had practised medicine for fifty-eight years. He graduated at the University of Pennsylvania in 1832. He was one of the organizers of the Louisiana Medical Society, and was a member of the Board of Health at the time of his death. He was also Chairman of the Board of Yellow Fever Experts.

A Companion to the Crow-Bar Case, in which a crowbar was sent through the frontal lobes of the brain, is reported from Zurich. An artisan went home drunk, and fell out of a window about one hundred feet from the ground, probably in the attempt to shut it. He suffered a splinter fracture of both the frontal bones, with severe contusion of the brain in that region and efflux of brain substance. The man, who before his accident had been well-behaved, peaceable, good-natured, cheerful, and cleanly, became malicious, slanderous, quarrelsome, violent, and dirty, while no other morbid symptoms were observed.

The Convention for the Revision of the United States Pharmacopœia will be held in the city of Washington, May 7th, at noon. As it is necessary that some preliminary arrangements should be prepared in advance of the convention, Dr. Amory, President for the convention of 1880, has appointed the following delegates to act as a Committee of Arrangements: Dr. Samuel C. Busey, Dr. C. H. A. Kleinschmidt, Dr. Robert T. Edes, of Washington; Mr. P. W. Bedford, of New York, and a committee appointed by the National College of Pharmacy of the following members: W. S. Thompson, J. A. Milburn, and S. A. Waggaman, M.D. As soon as arrangements are completed a circular will be mailed to each organization whose credentials are received before April 10th, and to any delegate who will forward his address on a stamped envelope inclosed to Dr. Robert Amory, P. O. Box 3,281, Boston, Mass. The railroads in the territories of the Trunk Line Commission, Central Traffic Association, and the Southern Passenger Association, which practically includes all the lines between New York State on the East, Chicago, St. Louis, and the Mississippi River on the West, and all the Southern States, will make the convention rate of a full fare going and one-third fare returning (on the usual conditions) to all delegates and their friends to Washington and return. In the New England States and Michigan, as also north of Chicago and west of the Mississippi River no concession can be obtained.

Society Reports.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, January 22, 1890.

J. West Roosevelt, M.D., President, in the Chair.

Dr. George C. Freeborn showed three large cystic tumors which had been hardened in the fixing fluid described at a meeting in December. He presented them to show that the fluid was useful in preserving large cysts as well as small ones. The walls of the tumors were firm and resilient, looking almost as if they were tanned.

Enormous Dilatation of the Heart.—Dr. Eugene Hodenpyl presented a heart removed from the body of a man about twenty-one years of age. He was found on the street suffering from the most intense dyspnœa, and was carried as quickly as possible to the hospital. There it was found that the area of cardiac dulness was greatly increased, and it was supposed that the case was one of pericarditis with effusion. The man's condition was such that it was impossible to get a satisfactory history of the events preceding his admission to the hospital. There was extreme cyanosis and the dyspnœa was most painful. It was determined to tap the pericardium, but before this could be done the man died. At the autopsy the heart was seen to be greatly dilated, measuring seventeen inches in its greatest circumference, and nine inches in its longest diameter. When cleared of all clots it weighed about forty ounces. One cusp of the aortic valve was nearly destroyed, but the mitral appeared to be normal. The pericardium was adherent. Dr. Hodenpyl said that the question had arisen in his mind whether it would not have been justifiable to aspirate the heart, even if the true condition had been known. The patient was suffering greatly from dyspnœa, and the operation might have given him a little relief before he died.

Dr. H. P. Loomis asked whether the heart had ever been aspirated in such cases.

Dr. Hodenpyl replied that it had been accidentally aspirated several times, the diagnosis having been made of pericarditis with effusion, and the same would have occurred had an operation been attempted in this case.

Dr. Dowd asked whether the movements of the heart would not at once warn the operator that the needle had entered the ventricle.

Dr. Hodenpyl said that in a heart like this he did not think that there would be much motion, and the fact that the needle had passed into the ventricle would become manifest only by the passage through it of blood.

Dr. Northrup asked what the condition of the other organs was, whether there was any degenerative change in the kidneys, for example.

Dr. Hodenpyl answered that there was venous congestion of all the organs, but no actual disease.

Dr. Ely said that the heart was, in his opinion, hypertrophied as well as dilated—that is to say, that the actual increase in the muscular tissue was very great, owing to the enormous dilatation, although proportionately to the size of the cavities the walls were not thickened.

The President said that the heart had been aspirated a number of times. He had seen the left ventricle pierced and quite a quantity of ammonia thrown in, in a moribund person, without any apparent harm being done.

Angioma of the Larynx.—Dr. H. P. Loomis presented a specimen showing angioma involving one side of the neck, face, and tongue, and the larynx. The patient was a woman, sixty-two years of age, who first came under observation last March, suffering from chronic rheumatism. At this time there was observed a tumor, as large as an English walnut, projecting from the side of the tongue. Another mass involved the left side of the pharynx, and both tumors were continuous with a third one extending from the inferior maxillary bone to the clavicle. The tumors were of a purple color, soft, and the tumors of the pharynx and tongue could be enormously increased in size by compressing the tumor in the neck. The woman said that these tumors had existed from birth. She came under observation a second time last November. She was then in a critical condition. The tumors of the tongue and pharynx had increased to the size of a lemon; there was an enormous cervical tumor extending from the level of the orbit to the clavicle. Abdominal ascites and œdema of the legs were marked. The abdominal lymphatics, especially in the inguinal region, were enlarged to the size of the little finger. The face was cyanotic, and the dyspnœa was so intense that the patient could not lie down. The voice was not changed, but the speech was thick. There was hypertrophy of the heart, and a loud mitral regurgitant murmur was heard. The woman died four weeks after admission to the hospital. Six hours before death she passed about sixteen ounces of blood from the bowel.

At the autopsy the lungs were found œdematous and congested, and there was hypertrophy with dilatation of the heart. There was a moderate amount of chronic diffuse nephritis, and the large intestine showed submucous capillary hemorrhages. In addition to the tumors of the neck, tongue, and pharynx, there were two angiomatous growths of the larynx, one the size of a large pea projecting from the ventricle of the larynx on the left side, and the other the size of a cherry at the lowest part of the aryteno-epiglottidean fold.

Autopsy on a Case of Hydrophobia.—Dr. Loomis also presented a microscope-slide showing a section of the spinal cord removed from a boy who had died of hydrophobia, and made the following remarks: "On December 19th, Deputy Coroner Donlin requested me to make a post-mortem examination on a lad, fifteen years of age, who had been bitten six weeks ago on the wrist by a dog supposed to be mad. The boy had remained well until within four days of his death, at which time he became delirious and very violent. As his condition grew steadily worse, he was admitted to the insane pavilion of Bellevue Hospital. On the evening of December 18th he was wildly delirious, throwing himself about in his bed and on the floor. In his ravings he appeared to be afraid that somebody was going to injure him. At times he seemed for a moment to be rational. His eyes had a wild look and the conjunctiva was congested. His face was ordinarily pale, but became suddenly flushed at times. Drs. Fitch and Douglas, the physicians in charge, knowing nothing of the previous history, made a diagnosis of acute mania. The patient was vomiting profusely, and a stomach-tube was introduced and the stomach syphoned. Fifteen minutes afterward, while sitting in a chair, he suddenly died, showing some of the symptoms of asphyxia. No fluids had been given to the patient, so none of the effects of swallowing had been noted.

"The autopsy was made twelve hours after death, and with the exception of engorgement of the cerebral vessels and slight pulmonary congestion and œdema, no pathological condition could be found in any organ or tissue of the body. A microscopical examination of a section of the lower portion of the medulla showed congestion of the capillary vessels, but no structural changes. A portion of the spinal cord was removed, and was reduced by Pasteur's method to an emulsion in a porcelain crucible, and injected into the subdural space of a healthy rabbit. The animal remained perfectly well for twenty-one days, and then developed the characteristic paralysis of hydrophobia, commencing in the posterior extremities and rapidly progressing, until death occurred from paralysis of the muscles of respiration. A second inoculated rabbit died in the same manner after remaining perfectly well for twenty-three days. The classical course of the disease in the rabbits proved conclusively that they died from the virus of hydrophobia."

Photo-micrographs.—Dr. J. H. Linsley exhibited a number of excellent photo-micrographs made by Dr. W. M. Gray, of Washington. They were taken with dry

plates, and the stain used, in some of the specimens at least, was borax-carmine.

The President remarked that there was a good deal of difference in the carmine and eosine stains as regards their distinctness in photographs. In some of them there was so much blue that they were almost worthless for photographic purposes, while some others gave a stain that came out very clearly.

Dr. Freeborn said that there was considerable work of this kind done in the pathological laboratory of the College of Physicians and Surgeons, and during the last six months a black stain had been used which gave very satisfactory results. It was a dye which came from Russia, and was called "Platner's Kernschwartz," but its exact composition was not known. It stained the nuclei a deep black, while the cell-membrane and protoplasm appeared in varying shades of gray.

Preparing Hearts for the Museum.—Dr. John S. Ely showed a number of hearts to illustrate a method that he had found very useful in preparing museum specimens of these organs. The principal point was to hang the heart by the apex. The heart is first washed thoroughly in cold running water for from twelve to twenty-four hours, and if it has been cut open the parts are sewed together by discontinuous sutures. The ventricles are then prevented from collapsing by introducing a little horse-hair (a very small quantity will suffice), a thread is passed through the apex, and the heart is suspended in strong alcohol. The specimen sets more rapidly and keeps its shape better if strong alcohol be used. The auricles require no attention, for they will keep open of themselves if the heart is suspended with the apex up.

Late Hereditary Syphilis.—Dr. J. Lewis Smith presented several specimens removed from the body of a child, with the following history: About three months ago the speaker had been called to see a boy, ten years of age, in a family that he had never attended before. The first thing that he noticed on beginning his examination was that the abdomen was very greatly distended, and on palpation two distinct tumors could be made out. The first one was in the neighborhood of the spleen, and the other evidently proceeded from the liver and filled the entire upper third of the abdominal cavity. There was also considerable fluid, supposed to be serous and to result from obstruction in the portal system. There was no fever. The mother stated that the child's health had been good until within seven or eight months of the time that Dr. Smith first saw him, when his appetite began to fail, he became emaciated, and the abdomen began to increase in size. The boy was able to walk about for two months after coming under observation, but grew worse gradually, and for three weeks before death was unable to leave his bed. Toward the last there was considerable dyspnœa. The distention of the abdomen was extreme, its circumference at the time of the child's death being fully equal to that of the body of a well-developed man. It was believed that the trouble was cancer, but this was found at autopsy not to be the case, the lesions seeming to be those of syphilis. There had been no microscopical examination made as yet, but this would be done and the results would be reported to the Society at its next meeting.[1]

The kidneys were somewhat enlarged and showed the lesions of waxy degeneration, and the spleen was also waxy. It was a matter of wonder, after seeing the condition of the lungs, how the child had been able to live as long as he did, for it did not seem as though there were any chance of the blood becoming sufficiently aerated to perform its functions. The left lung was completely collapsed, and the right, though perhaps three times the size of the left, contained air only in its upper portion. The liver was also enlarged, and on gross examination was evidently syphilitic. There was no history of syphilis in the family, and the other children were healthy. One child had died, but it could not be clearly ascertained from what. The boy had exhibited no signs of hereditary syphilis in his early life, the only suspicious point that could be elicited on the closest questioning being that he had been rather subject to colds in the head, and this may have been a syphilitic coryza. The teeth and nose presented none of the appearances which have been described as characteristic of hereditary syphilis, and the patient had been perfectly well up to within two years of his death. If, on further examination, the lesions should be shown to be syphilitic, the case must be regarded as one of late hereditary syphilis.

[1] The Committee on Microscopy subsequently reported that the lesions in the liver were multiple gummata.

Mutual Transposition of the Aorta and Pulmonary Artery.—Dr. William P. Northrup presented a heart exhibiting mutual transposition of the aorta and pulmonary artery, and patent foramen ovale and ductus arteriosus. The specimen was removed from the body of a male child born in the New York Foundling Asylum. It was at first thought to be a well-formed baby, but it was early noticed to be somewhat blue, and to become markedly cyanotic on crying. It nursed poorly, and after three days became "pale-slate colored," with cold extremities. There was a loud systolic murmur, and the heart's action was violent and palpitating, though the pulse was regular, of fair quality, and 160 to 180 in the minute. Respiration was normal. The child was dull, but easily aroused, and would then become very cyanotic. There were some small abrasions about the nose which never healed, but remained as dark red spots. After a week the child ceased to nurse altogether, and developed bronchitis. There was no œdema. The cyanosis was most marked in the upper extremities. (For this history Dr. Northrup was indebted to the house-physician, Dr. George S. Lynde.)

Autopsy.—The brain was not examined. The skin was of a bluish dirty-white color. The liver was intensely congested; the kidneys were congested, firm, and dark-red in color; the spleen was small and shrivelled; the thymus was large, and the stomach and intestines were normal. There was a mutual transposition of the aorta and pulmonary artery. When *in situ* the origins of these two great vessels were plainly visible, the aorta arising from the conus arteriosus of the right ventricle, the pulmonary artery from the usual point of origin of the aorta in the left ventricle. The correlation of parts is best understood if we consider this supposition: The aorta and pulmonary artery are separated from their usual attachments, the hypertrophied heart rotated on its longitudinal axis from left to right, the aorta attached to the apex of the conus arteriosus, and the pulmonary artery attached to the point of usual origin of the aorta. It is easily understood that the right ventricle was rolled downward, the auricle nearly disappearing beneath the aorta in its new location, while the left ventricle made its appearance and presented as much surface to view as did the right ventricle, and also showed much of the corresponding (left) auricle. A drawing was exhibited showing schematically the relative shape and correlation of parts. It showed the two auricles and ventricles in equal degree. The left coronary artery, which is usually seen near the subject left cardiac margin, was shown passing down over the middle of the anterior surface of the heart. It was given off from the aorta and passed downward over the septum ventriculorum. The heart was large for the age of the child, and was hypertrophied in all its walls, most notably in those of the left auricle and ventricle. The ductus arteriosus was patent. The aorta, before receiving the abnormally large ductus, suffered marked constriction. At the point of juncture of the proximal wall of the ductus with the wall of the aorta there was a concentric fold, made up of aortic wall and ductus, which served to direct the blood-stream upward into the vessels of the neck. The foramen ovale was open at its anterior margin, the aperture being about as large as the aorta at its point of constriction. The membrane closing most of the original foramen was thick and redundant, forming a valve sufficient to close the foramen under pressure from the right auricle, but calculated to open under pressure from the

left. In case the blood-pressure in the left auricle exceeded that in the right, there would be a current from left to right, but in no case from right to left. Otherwise the auricular septum was complete. The ventricular septum was complete. In short, there were no anatomical changes not directly dependent upon the interchange of points of origin of the aorta and pulmonary artery. The venæ cavæ emptied into the right auricle, the pulmonary veins into the left auricle.

The Course of the Circulation.—Venous blood entered the right auricle and ventricle through the venæ cavæ, and passed through the transposed aorta to the vessels of the neck and arms. Aerated blood from the lungs passed through the left auricle and ventricle to the pulmonary artery, much of it passing through the ductus arteriosus to the descending aorta on the distal side of the constriction. There was a commingling of blood-streams at this point. Again there was, no doubt, commingling of streams by blood passing from the left to the right auricle through the valve-like redundant membrane of the foramen ovale. In other words, there were two circuits—an arterial and a venous—which commingled at two points, the stricture of the aorta and the foramen ovale. The coronary arteries were given off from their usual locations at the beginning of the aorta, and received their arterial blood from the current which came through the foramen ovale. The lower extremities must have received a good supply of arterial blood direct from the pulmonary veins, left auricle and ventricle, pulmonary artery, and ductus arteriosus. These facts explain the marked cyanosis of the face and hands, and the palpitation of the heart.

The Society then went into executive session.

Stated Meeting, February 12, 1890.

J. West Roosevelt, M.D., President, in the Chair.

Dr. John S. Ely reported that, at the request of Dr. J. Lewis Smith, a microscopical examination had been made of the liver presented at the last meeting of the Society. The lesion was found to be multiple gummata.

Acute General Miliary Tuberculosis.—Dr. J. H. Linsley presented specimens and slides from a case of acute general miliary tuberculosis occurring in a child of twenty-two months. The child had been bottle-fed on condensed milk up to about three months ago, since which time soups, oatmeal, and cow's milk had been added to the diet. He had never been sick up to three months ago, at which time he was attacked with vomiting of such severity that almost all the food was rejected by the stomach. This vomiting continued pretty constantly for three or four weeks, the abdomen meanwhile increasing gradually in size, and the child emaciating perceptibly. Two weeks before admission to the Hospital of the Post-Graduate School he began to cough at night, and had some fever. On admission, January 7th, the child was seen to eat fairly well, but did not seem to be nourished by his food. The child lived in Brazil from the age of eight weeks to that of eight months, and the mother thought that there was some malarial complication. He had a peculiar nodding and tremulous motion of the head, and also what seemed to be a facial paralysis on the left side. The treatment consisted in the administration of cod-liver oil, hypophosphites, and iodide of iron, and the diet was composed of bread and milk and soup; but the child nevertheless failed steadily, and died on January 25th.

Autopsy.—The peritoneum was normal, but the mesentery was the seat of numerous small miliary tubercles, and the mesenteric glands were enlarged and indurated. The liver extended below the free border of the ribs a distance of five centimetres. Upon removing the calvaria a large amount of clear fluid escaped from the cranial cavity. The amount could not be estimated with any degree of accuracy, but it was several ounces. The dura mater was firmly adherent to the calvaria, and the vessels of the pia were deeply congested; the pia itself was thickened, and over the portion of the brain corresponding to the occipital lobe there was a considerable exudation of lymph beneath the pia, having an opaque appearance. The substance of the brain was very soft, and all the vessels leading to it were deeply congested. Upon removing the brain and resting it on its inferior surface, the two hemispheres flattened out and separated, exposing the whole ventricular area. The corpus callosum was almost entirely destroyed, and the lateral ventricles were enormously distended with fluid, their cavities reaching to within two centimetres of the exterior surface of the cortex posteriorly. There was an extensive tuberculous deposit on the exterior surface of the anterior portion of the middle lobe of the cerebellum, immediately beneath the roof of the fourth ventricle, and immediately posterior to this was a large suppurating cyst. The pressure upon the veins of Galen must have been considerable, and would account for most, if not all, of the fluid in the ventricles. The heart was normal. There were firm pleural adhesions all over the right side, but none on the left. The left lung was well aerated, and was studded with miliary tubercles throughout its substance, a few being seen on the surface. The right lung was somewhat collapsed, very poorly aerated, and miliary tubercles were to be seen on its surface. On section the cut surfaces were seen to be studded with small miliary tubercles. The bronchial glands were enlarged, of a firm cheesy consistency, and of a whitish appearance. The left kidney was normal in size and slightly lobulated. In the upper portion of the organ were felt numerous hard nodules, and in the lower portion, for a distance of three centimetres, was a hard, whitish, cheesy mass occupying the entire thickness of the organ. The capsule was not adherent except over the portion corresponding to this cheesy mass. The surface was mottled reddish and white, and there were a few miliary tubercles in the cortex. On section the markings were fairly distinct, and about the centre of the organ there was a small whitish nodule half a centimetre in diameter. In the right kidney the capsule was not adherent. A small discolored area, having the appearance of an infarction, was seen on the lower and anterior surface. Upon section the pelvis was seen to be enormously dilated, the markings were obliterated, and numerous miliary tubercles were seen in the cortex. The left ureter was normal in appearance, but the right was greatly dilated and there was a hard whitish mass, about four centimetres from the kidney, which entirely filled the lumen of the tube. The spleen was greatly enlarged and contained two cheesy masses.

Examination for bacilli was negative for the lungs, but the micro-organisms were found in sections of the kidneys, liver, and spleen.

The case was not an unusual one, but was presented mainly for the reason that it was in the line of a number of cases of tuberculosis which had been presented to the Society this winter, in which the lesion in the lung was the least marked. The most extensive deposit was found in the kidney, and it was here also that bacilli were found in greatest abundance.

Dr. Northrup thought that cheesy masses, as distinguished from miliary tubercles, were very rare in the kidneys, and said that the demonstration of bacilli was especially difficult in them.

Dr. Linsley, in answer to questions, said that he did not know the original point of entrance of the bacilli. The bronchial glands were not broken down. The renal lesion was the most marked of any.

Dr. Fisher said that in an older subject we would expect to find some interference with co-ordination in a lesion of the middle lobe of the cerebellum.

Aneurism of the Arch of the Aorta.—Dr. R. G. Freeman presented a specimen, for which he was indebted to Dr. J. S. Thacher, of aneurism of the arch of the aorta. The patient was admitted to St. Luke's Hospital complaining of moderate pain in various parts of the chest, and inability to swallow solid food, although there

was no pain on swallowing. He could take fluid nourishment. These symptoms had been present for two months. On admission the pulse was one hundred and regular. The radial arterial wall was a little thickened. Over the whole chest a few moist râles were heard, and over the left chest was feeble breathing. The urine was normal. There was flatness on percussion over the upper third of the sternum, but no pulsation or murmur. A systolic murmur was heard over the apex of the heart. There was paralysis of the left vocal cord. At the autopsy an aneurism was found involving the ascending and transverse portion of the arch of the aorta, four and a half inches in diameter. It contained no laminated fibrin, but a moderately firm and slightly adherent white clot. The œsophagus was ulcerated from the level of the bifurcation of the trachea to a point two inches above. Posteriorly the ulcer had perforated into the connective tissue, producing suppuration with a gangrenous odor. In front of the œsophagus a cavity had been formed in the connective tissue, an inch an a half in diameter, extending down to the diaphragm. The heart was normal. The specimen showed a large fusiform dilatation of the aorta, beginning just above the valve, increasing gradually in size, and ending in a sacculation of the summit of the aorta. All the large vessels of the neck were given off from the aneurism. The points of special interest were the absence of pulsation and murmur over the aneurism, although it was of considerable size, and also the paralysis of the left vocal cord due to pressure on the left recurrent laryngeal nerve. Microscopic examination of the heart muscle showed it to be normal. Sections of the aorta and aneurismal wall showed only the usual changes.

Dr. Messenger recalled a case of a similar, but much larger, aneurism, which on autopsy was found adherent to the spine and both chest-walls, laterally and anteriorly. There had been a most distressing cough for several years. The patient died from interference with the respiration.

The President remarked that such aneurisms need not necessarily pulsate, and that this specimen showed no fibrous bands or rough walls, a fact which might explain the absence of the murmur. He did not see why there should have been a systolic murmur at the apex.

A Fleshy Mole.—Dr. Charles N. Dowd presented a fleshy mole which was passed by a dispensary patient about two days after the uterus had been curetted. These moles are usually formed from fœtal membranes which remain in the uterus after abortion or the death of a young fœtus, extravasated blood aiding in their formation; or the retained placenta of an older fœtus may form an entire mole. The so-called false moles may be produced from a submucous fibroid which becomes detached from its pedicle, from the mass expelled in membranous dysmenorrhœa, or from a simple blood-clot. The patient who passed this mole gave the following history: She was thirty-six years of age, in fair general condition, denied ever having had syphilis. She had had five children, the last one three years ago, and two miscarriages previous to the last child. She menstruated last on April 1st, and on August 1st had the ordinary signs of pregnancy. At this time she began to pass clots, and although she looked for the fœtus, found none. The hemorrhages continued with more or less severity for four months, during the last two of which she was under observation at the dispensary. The mole was passed only after the uterus had been curetted, and thus the mole, which was the placenta of a four months' fœtus, had been retained in the uterus for four months after abortion. On examining the specimen the following features were noted: It was an ovoid mass of firm consistency, $2\frac{3}{4} \times 1\frac{1}{4} \times \frac{3}{4}$ inches in size. At the back there were some adherent membrane and a few dense clots. The rest of the surface was fairly nodular. Microscopical examination showed placental structure in a condition of interstitial inflammation. The placental tufts showed a large amount of dense connective tissue. Vascularity was much diminished. There were numerous calcareous deposits, and the entire structure was much compressed. The specimen was compared with a section of a normal placenta which was placed beside it. This interstitial placentitis is very common,[1] and it is certainly probable that it was the cause of the abortion.

Dr. Dowd also presented some other specimens illustrating other forms of moles. The first was a fleshy mole in which the membrane and decidua were found. Ziegler[2] says that this occasionally follows disease of the decidua or decidual hemorrhage. Birch-Hirschfeld[3] says that the spaces between the chorionic villi are filled with coagulated blood, and that the chorion and amnion are sometimes bound firmly together by the clot.

False Fleshy Mole.—The second false mole was really a submucous fibro-myoma, which in general appearance resembled closely the placental mole previously presented. These tumors extend into the uterine cavity and become separated and expelled. The separation is supposed to be caused by the constriction of the pedicle or the vessels of the pedicle, which comes from the efforts of the uterus to expel the mass. Another specimen was presented, showing the fibro-myoma in the uterus attached by a firm pedicle.

A discussion followed on the manner in which atrophy of the pedicle of the fibroid moles was brought about.

Dr. M. P. Jacobi held that there was no diminution in the size of the uterus at the site of the pedicle, therefore no pressure was exerted around the pedicle.

The President, as well as the reader of the paper, took the position that there was, notwithstanding this, a stenosis of the vessels of the pedicle, caused very probably by the traction upon the mole, either from the efforts of the uterus to expel it or from its own weight.

Tuberculosis of the Lungs and Supra-renal Bodies.—Dr. H. M. Biggs presented specimens showing these lesions, removed from the body of a man who had been admitted to Bellevue Hospital suffering from influenza. He had a general bronchitis, which cleared up well with the exception of several small areas of consolidation. His general condition became very good. Suddenly he grew worse, went into collapse, and was dead within five hours. The necropsy did not explain the cause of death. In both lower and upper lobes of the lungs there were six or eight small tubercular areas, surrounded by recent broncho-pneumonia. The bronchial glands were swollen but not cheesy. There were no tubercles elsewhere except in the supra-renal capsules, which were entirely replaced by cheesy masses. There was no pigmentation of the skin. Dr. Biggs was certain that these cheesy masses were tuberculous, although he had made no microscopical examination. He had seen two other cases of tuberculosis with lesions of the supra-renal capsules, and without pigmentation. One had tuberculous nodules in the cerebellum, cerebrum, kidneys, bladder, prostate, supra-renal capsules, and spleen, with a recent lesion in the lung. The other was a case of general miliary tuberculosis. He considered the real lesion in Addison's disease an affection of the sympathetic system. The lesions of the supra-renal bodies might be tuberculous, cancerous, hemorrhagic, or occasionally atrophic.

Dr. Northrup had seen a case with dirty brown skin, whitish cheesy bodies replacing the supra-renal capsules. The lesion was found to be hemorrhagic.

Dr. M. P. Jacobi said that she had always considered the lesion in Addison's disease a true atrophy. She suggested as the cause of the sudden death a generalized tuberculous infection not old enough to have caused lesions which were demonstrable.

The President asked for examination of the pneumogastric nerves in cases such as this. There was probably no mechanical obstruction to the circulation in this case.

Supernumerary Nipple.—Dr. Mary Putnam-Jacobi presented a specimen of a supernumerary nipple which was attached by a narrow and short pedicle to the sum-

[1] Hirst: American System of Gynecology, vi., p. 243.
[2] Spec. path. Anat., vii., p. 883. [3] Path. Anat., vii., p. 802.

mit of the normal nipple. It was of the same size as the normal nipple, and of the same structure, though the ducts were slightly more dilated. It had appeared at the age of thirty years, after the birth of a child, and had grown gradually during the past fifteen years up to its present size. It had caused no inconvenience at all until the last two days, when there had been a little pain, probably from unusual pressure. Dr. Jacobi considered the case extremely rare.

Dr. Northrup had tied off a small growth from the summit of the nipple once, without thinking much about it. It may have been a similar growth.

Bicuspid Aortic Valve.—Dr. H. M. Biggs showed a bicuspid aortic valve. The valve had been perfectly competent, and the heart was not at all enlarged.

The President had seen the aortic valve with four cusps, but had never seen one like this.

The Society then went into executive session.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

A UNIQUE SERIES OF CASES OF VESICAL CALCULUS—THE PROPOSED HOSPITAL FOR THE INSANE IN LONDON—THE ARMY MEDICAL DEPARTMENT—THE POSSIBILITY OF DISPENSING WITH THE MEDICAL EXAMINATIONS OF PERSONS ASSURING THEIR LIVES.

London, March 15, 1890.

A remarkable record of operations for vesical calculus was presented to the Medical and Chirurgical Society at its last meeting by Sir Henry Thompson. He had previously (in 1878) brought before the same society a series of 500 cases, but in the past twelve years he has added 464 cases to his list, making a total of 964—a record probably unapproached by any living British surgeon; of this number 101 were hospital, and the remainder (863) private cases. Of the total number of cases only 17 were those of children and only 14 those of women. Full notes had been made of every case at the time and almost every calculus had been preserved; the calculi were shown. An analysis of the entire series of cases showed that stone in the bladder was not more common in children than in adult patients, as was formerly supposed from the experience of hospital practice. The mean age of the entire adult male cases was about 62 years. Taking the male private patients alone, only 100 (out of 849) were under 50 years of age. The greatest age at which an operation (lithotrity) had been performed was 91 years. The largest calculus weighed 14 ounces and was composed of uric acid. Sir Henry Thompson urged the value of the principle, long ago insisted upon by him, of finding the calculus at the earliest date possible, for the adult elderly male, in whom it so frequently occurred. Two cogent reasons existed for this: 1, the stone when small was easily removed and with little risk; 2, at that stage of calculus production the re-formation of an acid calculus (uric or oxalic) could almost invariably be prevented by strict dietetic precautions. In the entire adult series of 933 cases, 800 were by lithotrity, 115 by perineal lithotomy, and 18 by suprapubic lithotomy. The author's earliest case of lithotrity was in 1854. He had commenced at that time with the method of Civiale. In 1865, Clover introduced the aspirator for removing *débris*. In 1878, Professor Bigelow introduced the great and important principle of employing only one sitting and removing the whole of the *débris* at once. Sir Henry Thompson had at once adopted this method, and, as a result, the mortality of his cases was reduced nearly one half, as shown by comparing his own 325 cases of the operation by a single sitting with the 475 by multiple sittings prior to the date named.

Mr. Bryant remarked on the enormous advance made by the introduction of the operation of lithotrity at one sitting by Bigelow, which he considered the most important since the question of operation for stone had been dealt with at all by surgeons. Referring to lithotomy, he said it was evident that the lateral was gradually being put aside for the suprapubic method. Under what circumstances would Sir Henry Thompson prefer the suprapubic method to lithotrity in adults, and under what circumstances would he adopt the suprapubic operation in preference to the perineal one in children? All would agree as to the importance of dealing with a stone at the earliest possible stage, and both physicians and surgeons were now in the habit of examining the bladder at once if there were signs of persistent irritation.

Mr. Buckston Browne observed that he scarcely knew how to classify certain of his cases. Sir Henry Thompson had laid it down that removal of phosphatic concretions was not to be considered as an operation of lithotrity, and he had also fixed an arbitrary limit of twenty grains, to concretions below which weight the name stone was not to be applied. On the other hand, Surgeon-Major Freyer, in recording his Indian experiences, had grouped together stones weighing three and four grains, and stones weighing an ounce or more. Mr. Buckston Browne exhibited three hundred calculi, their combined weight being only one hundred and seventy grains, which he had himself removed from a patient's bladder through a tube, no lithotrite being used. He thought the time had come when three designations should be used for cutting, crushing, and washing out; "lithotomy" and "lithotrity" for the two former, while the term "lithoplaxy" should be reserved to imply the removal of a stone or stones without the use of the knife or lithotrite.

The President (Mr. Timothy Holmes) said one of the most important points raised was the possibility of detecting and removing a stone early, and another equally important and gratifying point was the possibility of guaranteeing the patient from the risk of recurrence if he would adhere to a properly regulated diet. The re-introduction of suprapubic lithotomy made it possible to remove a mass of enlarged prostate if that condition occurred as a complication of stone. It was satisfactory to notice that in a large proportion of cases after lithotrity the cure seemed to be definite. He asked whether the children of the poor met with in hospitals were better dealt with by lithotomy or lithotrity? He had himself had such ample reason in these cases to be satisfied with the former that he had never tried the latter, but he believed that the results of lithotrity in children had been exceedingly favorable in India.

Sir Henry Thompson then replied. He said: The question whether lithotomy or suprapubic lithotomy was the better operation in the adult and in the young patient respectively, was an exceedingly difficult one for him to answer, believing as he did so strongly in the importance of the "personal equation" in the operator. He found, indeed, the question even more difficult to answer now than formerly. In the case of children, he had employed lithotrity for stones of moderate size, but very large ones, which some perhaps might crush, he would prefer to cut. He liked the suprapubic operation for boys, for the wound could be closed at once, but in adults he preferred a free opening, allowing drainage for some days afterward. In the adult, crushing might be carried to stones of four ounces if one chose, provided a large evacuating-tube could be passed. In connection with this, he observed that the adult male of sixty-five to seventy-five, possessed as a urethra a very insensitive and capacious channel, while the most irritable urethra he had found in men of from twenty-five to forty, and any over-distention of these frequently gave rise to trouble. If an evacuating-tube as large as No. 18 could be passed, a three-ounce uric-acid stone when crushed could be removed with great facility. If he found an irritable passage with a rigid prostate, admitting only a No. 13 or 14, he preferred to employ the suprapubic operation for a large calculus. His experience with children was but small, but in them lithotomy had given good results. The difficulty of completely

evacuating a bladder had been practically abolished since the introduction of the modern powerful aspirators, but there would still be a re-formation of deposit in cases of enlarged prostate; this was only to be prevented by frequently washing out the bladder.

The proposal for a hospital in London for the curative treatment of insanity has been shelved for the present, as the London County Council has postponed the further consideration of the subject for six months. The question of expense has doubtless done much in guiding them to this decision.

The attitude of the Secretary of State for War, in refusing to carry out many of the recommendations of Lord Camperdown's committee, is provoking much adverse comment. Mr. Stanhope's refusal to publish the evidence laid before the committee is also keenly criticised. When the supply of army surgeons falls off, probably the government will do something, but at present the candidates are always more numerous than the vacancies.

The question is being discussed of the possibility of dispensing with the medical examinations of persons assuring their lives. It has been suggested that, under certain conditions, such examinations may be dispensed with without placing undue risks on the insurance offices.

THE MANAGEMENT OF HIP-JOINT DISEASE FROM AN ANATOMICO-PATHOLOGICAL BASIS.

To the Editor of the Medical Record.

Sir: My attention was called recently, for the first time, to an error, probably made by the printer, in a paper published in the Record, May 4, 1889, by the above title.

In that paper I am made to say (see page 478, just underneath Fig. 2), "No apparatus has heretofore been devised which will so perfectly fix a hip-joint as double extension in bed—the body and well leg fixed to a long splint—first recommended, I believe, by Dr. Sayre (see Fig. 3)."

A *dash* has been substituted for the *period* after *bed*, and the next sentence commenced with a small letter. The word *are* is also dropped between the words *leg* and *fixed*, which changes the meaning intended. The sentence should read, "No apparatus has heretofore been devised which will so perfectly fix a hip-joint as double extension in bed. The body and well leg are fixed to a long splint, first recommended, I believe, by Dr. Sayre, See Fig. 3."—Portable should read portative, page 477, fifth line from top.

Truly yours,

A. M. Phelps, M.D.

144 West Thirty-Fourth Street, March 25, 1890.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 23 to March 29, 1890.

Jarvis, N. S., First Lieutenant and Assistant Surgeon. Leave of absence granted for one month, with permission to apply for an extension of fifteen days. Par. 1, S. O. 34, Headquarters Department of the Missouri. Fort Leavenworth, Kan., March 20, 1890.

Taylor, Marcus E., Captain and Assistant Surgeon. By direction of the Secretary of War authority is granted for his admission to the Army and Navy General Hospital, Hot Springs, Ark., for treatment therein. Par. 6, S. O., A. G. O., March 21, 1890.

Taylor, M. E., Captain and Assistant Surgeon. Leave of absence granted for one month, based on surgeon's certificate of disability, with permission to apply for an extension of one month. Par. 3, S. O. 26, Headquarters Department of the Columbia, March 18, 1890.

Birmingham, Henry P., Captain and Assistant Surgeon. By direction of the Secretary of War is relieved from station at Fort Klamath, Ore., and from temporary duty at Vancouver Barracks, Washington, and will report in person to the commanding officer, Boice Barracks, Ida., for duty at that post. Par. 6, S. O. 72, A. G. O., Washington, D. C., March 27, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending March 29, 1890.

Ames, H. E., Passed Assistant Surgeon. Ordered to Museum of Hygiene, Washington, D.C.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 29, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	8	2
Scarlet fever	79	9
Cerebro-spinal meningitis	4	1
Measles	224	14
Diphtheria	101	24
Small-pox	0	0
Varicella	2	0
Cholera	0	0

A Double Monster.—There is now on exhibition in England a double monster, known as the Tocci Brothers. The children are thirteen years of age, and were born of an Italian woman living in humble circumstances. The body as far as the shoulders is single, but is double above. The stomach is common to the two children, and if one eats heartily the other has no desire for food, yet it is said that the two are very unlike in their appetites and tastes, one being fond of sweets while the other cares only for substantials. The genital organs are male, but the face of one of the children is very feminine in its appearance.

Circular of Information for Medical Men who may be desirous of entering the United States Army Medical Department.—The Medical Department of the Army consists of one surgeon-general with the rank of brigadier general; one assistant surgeon general, one chief medical purveyor, and four surgeons with the rank of colonel; two assistant medical purveyors and eight surgeons with the rank of lieutenant-colonel; fifty surgeons with the rank of major; and one hundred and twenty-five assistant surgeons with the rank of first lieutenant of cavalry for the first five years of service, and of captain of cavalry subsequently until their promotion by seniority to a majority. With the rank stated in each case the pay and emoluments of the rank are associated. The salary of each grade is a fixed annual sum payable monthly; but at the end of each period of five years of service the annual sum representing the pay of the grade is increased by ten per cent. until forty per cent. is added. After twenty years of service the forty per cent. additional continues to be drawn, but the further increase of the pay by ten per cent. additions ceases, *i.e.*, an officer, although he may have served twenty-five or thirty or more years can, under existing laws, have no more than forty per cent. added to his pay proper by way of increase for length of service. The pay of a first lieutenant of cavalry, or of a medical officer during the first five years of his service is $1,600 per year, or $133.33 per month. At the expiration of his five years of service he becomes, by virtue of that fact, a captain, and his pay is that of a captain of cavalry, $2,000 per year, increase by ten per cent. for his years of service,

viz., $2,200 annually, or $183.33 monthly. At the end of his tenth year of service this rate of pay is increased by the service-addition to $2,400 annually, or $200 per month, and after five years more the service-addition makes his pay $2,600 annually, or $216.67 per month. If he continue in the rank of captain, at the end of twenty years of service his monthly pay becomes $233.33; but about this time promotion to a majority is usually obtained, and a major's annual pay of $2,500, with forty per cent. added, makes the monthly pay of the major and surgeon $291.67. Subsequent promotion, investing the individual with the rank of lieutenant-colonel, colonel, and brigadier-general, augments the monthly pay respectively to $333.33, $375.00, and $458.33. Compulsory retirement at the age of sixty-four years increases the rapidity of promotion to the younger men; and when retirement is effected either by age or by the accidents of service prior to reaching the retiring age, the rate of pay subsequently drawn is seventy-five per cent. of the total salary and increases of the rank held by the individual at the time of his retirement. Thus, a major retired for broken health after twenty years' service draws seventy-five per cent. of $291.67 per month; a colonel retired for age, seventy-five per cent. of $375.00. The medical officer has the right of selecting quarters in accordance with his rank, and when stationed in a city where there are no Government quarters, commutation money, intended to cover the expense of house-rent, is paid to him. The Government provides forage and stable room for the horses of the medical officer, and when travelling under orders the expenses of transportation are paid by the Quartermaster's Department.

Among the privileges granted to medical, as to other officers of the army, is that of leave of absence on full pay. The authorized leave amounts to thirty days annually. This leave is not forfeited if not taken during the year, but is credited to the officer, who may thus accumulate a continuous leave of four months on full pay. If he desires to be absent for a longer period than four months, and the permission is accorded him, he is reduced to half-pay for all time in excess of the four months or maximum of cumulated leaves of absence. Absence from duty on account of sickness does not affect the relations of the officer with the paymaster; he continues to draw full pay.

A commission in the Medical Department of the army is an instrument which is good for life, premising conduct consistent with its retention on the part of its possessor; but it involves no contract which binds the individual to service for any given number of years. On the contrary, should the medical officer find on experience that civil life has greater attractions for him than that of the army, there is nothing to prevent him from at any time tendering the resignation of his commission.

A young medical officer on appointment is usually assigned to duty for a few months at some large post where there are other officers of his department, to afford him opportunity of becoming acquainted with the requirements of the Army Regulations and the routiné duties of military life. After this he goes to some post west of the Mississippi River, where he serves a tour of duty of four years. An assignment in the East follows the leave of absence which is usually taken at this time; and in after years his stations are selected so as to give him a fair share of service at what may be called desirable posts as an offset to the time spent at less desirable stations.

Candidates for appointment to the Medical Corps should apply to the Secretary of War for an invitation to appear before the Army Medical Board of Examiners. The application should be in the handwriting of the applicant, should give the date and place of his birth, and the place and State of which he is a permanent resident; it should be accompanied by certificates based on personal acquaintance from at least two persons of repute as to citizenship, character, and moral habits. Candidates must be between twenty-one and twenty-eight years of age (without any exceptions), and graduates of a regular medical college, evidence of which, the diploma, must be submitted to the Board. The morals, habits, physical and mental qualifications and general aptitude for the service of each candidate will be subjects for careful investigation by the Board, and a favorable report will not be made in any case in which there is a reasonable doubt.

The following is the general plan of the examination: I. The physical examination will be rigid; and each candidate will, in addition, be required to certify "that he labors under no mental or physical infirmity, nor disability of any kind, which can in any way interfere with the most efficient discharge of any duty which may be required." II. Oral and written examinations on subjects of preliminary education, general literature, and general science. The Board will satisfy itself by examination that each candidate possesses a thorough knowledge of the branches taught in the common schools, especially of English grammar, arithmetic, and the history and geography of the United States. Any candidate found deficient in these branches will not be examined further. The examination on general science will include chemistry and natural philosophy, and that on literature will embrace English literature, Latin, and history, ancient and modern. Candidates claiming proficiency in other branches of knowledge, such as the higher mathematics, ancient and modern languages, etc., will be examined therein, and receive due credit for their special qualifications. III. Oral and written examination on anatomy, physiology, surgery, practice of medicine, general pathology, obstetrics and diseases of women and children, medical jurisprudence and toxicology, materia medica, therapeutics, pharmacy, and practical sanitation. IV. Clinical examinations, medical and surgical, at a hospital, and the performance of surgical operations on the cadaver.

Due credit will be given for hospital training, and practical experience in surgery, practice of medicine, and obstetrics. The Board is authorized to deviate from this general plan whenever necessary, in such manner as it may deem best to secure the interests of the service.

The Board reports the merits of the candidates in the several branches of the examination, and their relative merit in the whole, according to which the approved candidates receive appointments to existing vacancies, or to vacancies which may occur within two years thereafter. At the present time there are 7 vacancies to be filled. An applicant failing in one examination may be allowed a second after one year, but not a third. No allowance is made for the expenses of persons undergoing examination, but those who are approved and receive appointments are entitled to transportation in obeying their first order assigning them to duty.

Copies of examination papers used by the Board in session in New York City in October last, are hereto appended as an illustration of the character of the questions submitted to candidates.—JOHN MOORE, Surgeon-General. Approved: REDFIELD PROCTOR, Secretary of War. War Department, Surgeon-General's Office, Washington, D. C., December 12, 1889.

SPECIMENS OF EXAMINATION PAPERS (used by the Army Medical Examining Board, in session in New York City, October, 1889).

Arithmetic.—1. Change 0.194 to an equivalent fraction whose denominator is 432. 2. How many inches are there in 0.0625 of a yard? 3. What is the percentage of mortality in pneumonia when 13 deaths occur in 64 cases? 4. A barometer indicates 29.36 inches; what is its height in millimetres? 5. 9.17 : 13.83 : : 19.34 : ? 6. What is the cube and cube root of 3.6? 7. By what principle of trigonometry is the distance of certain stars ascertained? Illustrate by diagram. 8. How do you ascertain the solid contents of a cylinder?

Geography.—1. Name eight rivers of the United States that empty into the Gulf of Mexico. 2. What large lake in the United States is at the greatest altitude? Where is it? And what is its approximate elevation? 3. Give the

boundaries of Montana, and briefly mention its general geographical features. 4. Describe the route you would take in going from St. Louis, Mo., to the City of Mexico, and name the States through which you would pass. 5. Mention two or three cities of Europe that are in nearly the same latitude as New York. 6. Name the capital of Saxony, of Bavaria, and of Switzerland. 7. What do you consider to be a small, and what a large, annual rainfall? 8. A storm is approaching, passes to the south of the observer in the Eastern U. S., and out to sea. Describe the changes of the wind that would occur.

History and Literature.—1. Give the names of the principal Roman deities, and the corresponding names used by the Greeks. 2. State what you know in regard to the date and object of the Magna Charta. 3. Who was Galen? And in what century did he live? 4. Give a brief account of Mohammed. In what century did he live? 5. Who was Frederick the Great? Mention some of his victories. 6. Give the particulars of General Arnold's treason. 7. Mention the leading events in the administration of President Madison. 8. Give the names of at least eight of Shakespeare's plays, and the approximate dates of his birth and death. 9. Mention the principal works of Victor Hugo. 10. Name the best known works of George Eliot. State what you know about this writer.

Physics.—1. What are the differences between the solar day and the sidereal day? 2. What portion of the earth's quadrant does the French metre represent? 3. Does the weight of a given mass increase or diminish as you go from the equator to one of the poles? Give the reason. 4. Describe the Torricellian vacuum. 5. Describe the process of ebullition. 6. What is Newton's first law of motion? 7. What is osmosis? What effects have heat and electricity on it? 8. Which color of the solar spectrum is produced by the slowest vibration of ether waves.

Chemistry.—1. Explain briefly the determination of atomic weight by means of specific heat. 2. What other elements belong in the same natural group with sulphur? 3. Describe briefly the chemistry of glass-making. 4. State the physical and chemical properties of aluminium. 5. Mention some of the analytical reactions of the proteids. 6. What are the principal forms in which nitrogen enters into organic compounds? 7. What ptomaines have been isolated? What other substances do they resemble in physiological action and chemical reaction? 8. Mention some tests for morphine.

Anatomy.—1. Give the origins and insertions of the triceps muscle of the arm. State its actions, and describe its relations to neighboring parts. 2. Give the origin, course, and relations to neighboring parts of the ophthalmic artery, and name its branches and the parts to which they are distributed. 3. Mention the nerves that supply the tongue, and describe the special parts supplied by each, and the kind of nervous supply in each case. 4. Describe the structure, location, attachments, and relations of the ligamentum denticulatum, and state its uses. 5. Describe the structure, course, and relations of the ureter proper. 6. Describe the relations of the trachea in the neck.

Physiology.—1. By what means is the exchange of gases between the blood of the pulmonary capillaries and the air in the air-vesicles effected, and what is the nature of the process? 2. State the differences between the gastric and pancreatic digestion. 3. Describe the various modes of origin of the lymphatics within the different issues. 4. Describe the different forms of reflex action and give an example of each. 5. State the changes that take place in the Graafian follicle, from which the ovum has been discharged.

Surgery.—1. Describe hospital gangrene, its treatment, constitutionally and locally. What preventive measures check its spread? 2. What are the constitutional manifestations of secondary and tertiary syphilis, and the appropriate treatment? 3. When is phlebotomy demanded? 4. Describe the operation of exposing the inferior dental nerve in its course in the body of the bone. 5. What are the indications for abdominal section or laparotomy? 6. What are the four primary forms of club-foot? Name the contracted muscles in each variety. 7. What pathological condition may follow ligation of veins? 8. Describe the various operations for stone in the bladder.

Practice and Pathology.—1. What are the anatomical characters of lymphadenomia? 2. Give the pathology of uræmia. 3. What are the pathological results of chronic alcoholism? 4. What course or courses of treatment would you pursue in cases of acute or chronic dysentery? 5. Give an account of the treatment of acute pneumonia. 6. What are the causes and the usual location of rupture of the heart? 7. Give the clinical history of chronic diffuse nephritis. 8. Give the symptoms of gout, and the differential diagnosis of gout and rheumatism. 9. What is the differential diagnosis of the eruptions of scarlatina, roseola, and measles? 10. Mention the principal animal parasites of man.

Obstetrics and Diseases of Women and Children.—1. What are the causes of severe vomiting in pregnancy? How can it be controlled? 2. What is puerperal eclampsia, the means of prevention, and the treatment in early pregnancy and during labor? 3. Describe the utero-placental circulation. 4. Give the signs of pregnancy. 5. What are common causes of abortion? State the preventive measures, and the treatment when it occurs. 6. Give the causes of tedious labor; mention two cases and the appropriate treatment for them. 7. What are the most dangerous diseases of children? 8. What are the earliest symptoms of tetanus nascentium? What are the supposed causes of it?

Materia Medica and Therapeutics.—1. Give the source and composition of eucalyptus; name its officinal preparations and dose of each; describe its physiological actions, and state the therapeutical indications for its use. 2. Give the officinal preparations of the mineral acids and doses of each; describe their physiological actions, and mention the therapeutical indications for their use. 3. Give the source and composition of guaiacum; name its officinal preparations and doses of each, and describe its physiological actions and the therapeutical indications for its use. 4 Give the officinal preparations of silver, with doses of each. Describe its physiological actions, and mention the therapeutical indications for its use. 5. Give the source and active principles of ergot; name the officinal preparations and describe its physiological actions, and state the therapeutical indications for its use. 6. Give source and composition of erythroxylon; name its officinal preparations, and describe its physiological actions, and state the therapeutical indications for its use. 7. Describe the physiological actions of the bromides. 8. Give source and composition of gelseminum; name its officinal preparations and dose of each and describe its physiological actions and the indications for its use. 9. Describe the physiological actions of salicin and its derivatives.

Hygiene.—1. What amount of fresh air per minute should be furnished for each inmate in school-rooms, audience-halls, etc.? 2. What are the effects of exercise on the lungs? 3. What are the possible disadvantages of hot-air furnaces, and how may they be overcome? 4. What is the source and the nature of organic impurities in drinking-water? 5. What can you say of the composition and of the merits of rain-water for drinking purposes as ordinarily stored? 6. What are the advantages and the disadvantages of leavened bread as an article of diet? 7. What is the relative amount of potential energy in the following proximate alimentary substances: Dry albuminate, starch, fat, cane-sugar? 8. By what ordinary means may milk be preserved for a limited time without ice? 9. In purifying an infected apartment by burning sulphur, what quantity of sulphur in proportion to the size of the room would be sufficient? 10. What, in your opinion, is the best method of disposing of excreta? Give your reasons.

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PULMONARY CONSUMPTION IN THE LIGHT OF MODERN RESEARCH.[1]

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WHILE more than fifteen per cent. of all deaths in the civilized world can still be traced to pulmonary consumption, no further apology is necessary for discussing this subject. Such a mortality alone is sufficient reason for us to persevere in our efforts to trace out the source of this evil, and to devise some radical means for its prevention. Moreover, the renewed interest which recent discoveries have awakened in general medicine is fully shared by this particular malady, and a fresh impetus has been given toward the solution of a problem which hitherto had seemed almost hopeless. Nevertheless, I must confess to some diffidence in debating this theme at a time when so many startling revelations are being made in regard to the etiology of disease, and when, from this unsettled state of our science, an argument based upon a premise of to-day may turn out to be illogical in view of the discovery of to-morrow. Still, a sufficiently large number of facts appear to be conclusively established to justify our consideration of the germ-theory in its relation to pulmonary tuberculosis. I therefore undertake this topic without promising any special novelty, for my work is in the field rather than the laboratory of medicine; but with an earnest desire to elucidate the various questions involved in the present aspect of the matter, and to do my share toward promulgating the latest results of modern research. And at the outset of my essay let me acknowledge the great obligations we are under to the large number of patient, painstaking workers, whose time is mostly spent behind curtains, with closed doors, peering into the but recently explored land of the bacteria, the dark continent of infection, whose miasma has been exhaling disease and death from a poisonous vegetation heretofore undiscovered.

There is a trait peculiar to a mind imbued with the real scientific spirit which is especially commendable. No seeker after the truth feels it incumbent on himself to uphold a claim which has been proved untenable. Demonstrate the fallacy of an hypothesis and it is immediately thrown aside for one that will bear verification. Meantime, however, the imagination plays a most important part in the progress of scientific investigation; for some of our most useful discoveries have long anticipated their final confirmation. An idea, but vague in its inception, ere long assumes definite shape, and is grasped by the progressive few, only to languish in the uncongenial atmosphere of general indifference, until some more fortunate observers find the profession at large prepared for its acceptance.

From the period of Galen down through the history of medicine the infection of phthisis had been surmised at various times, until Villemin, Cohnheim, and others showed that tubercle is inoculable, and, finally, the involved data were disentangled by Koch, in the separation and culture of micro-organisms, and the tubercular bacilli, wholly freed from complicating material, were categorically proved the cause, without which no tubercle is possible. Granting that "all germinal conceptions are the product of their age rather than of any individual mind," it assuredly fell upon this distinguished biologist to be the spokesman of his generation.

To me the germ-theory is a very fascinating explanation of the mystery that formerly enshrouded many of our fatal maladies. Furthermore, the brilliant results that have been achieved in surgery, through the operations of Lister and his followers, upon this hypothesis, are most convincing proofs of the correctness of so wonderful a conception. And though we may never be able to do more than utilize our newly acquired facts in the avoidance of threatening trouble, yet who can foretell the good that will accrue to man therefrom, when he comes, as in time he must come, to an adequate realization of its importance. Nor need we relinquish the hope that industrious experimenters will some day discover the secret of bacterial warfare, so that innocuous germs can be marshalled to drive the disease-producing fungi from the field. Seeing that micro-biologists already have ascertained that many bacteria inhabit the animal tissues which are in no way injurious to them, and also have remarked the same struggle for existence in the realm of microscopy that obtains between plants and between animals in the macroscopic world, and, moreover, that repeatedly benignant germs have succeeded in overpowering the pathogenic variety, and have caused their extinction, it is not a very improbable conjecture that, in the near future, these allies of the human race may be separated, cultivated, and impressed into our service to extirpate those hostile species.

That new ideas often should meet with stout opposition, solely on account of their novelty, seems to those convinced of their worth profoundly discouraging. But may not this be a fortunate circumstance, even though fraught with some delay? for in the end a rational mean is frequently the outcome of two irrational extremities. And in the workings of nature time apparently is of very little consequence.

The great mortality resulting from pulmonary tuberculosis is shorn of some of its terrors by the duration of the malady. Were the annual deaths from this affection to occur in the course of a few days, instead of a year, the public would require no urging to be convinced of the absolute need of strictly observing preventive measures. For tuberculosis is a preventable disease, and one of the unnecessary afflictions of the human race. And man, in reality, is his own worst enemy, because, in the blindness of his ignorance, or the culpability of his selfishness, he goes about spreading disease and death for himself and his fellow-man

All forms of phthisis probably are due to the presence of tubercle, in varying proportions, and all tubercle is the outgrowth of a microscopic, disease-producing germ known as the bacillus tuberculosis. Without this parasitic plant, however depraved the constitution, there will be no tuberculosis, and also, fortunately, with this morbific agent there will be no phthisis, unless the vitality of the tissues is impaired.

These liliputians of the vegetable kingdom are dwellers in a shadowy land, in which their forms and habits are being studied through magnifying media, wherewith the inventive mind of man has supplemented the natural limits of his vision. And soon, by the aid of photography, we may be able to dip, nay, have already dipped, more deeply

[1] Read before the Section in Medicine, New York Academy of Medicine, Tuesday, March 18, 1890.

into this obscure region than the human eye can penetrate.

Taken in through the inspired air or by means of contaminated food, these infusoria are distributed throughout the body, and find lodgement at points of least resistance, where they become foci of irritation and provoke a modified inflammatory process, which results in the development of tubercle. But the mere introduction of these bacteria into the system will not invariably cause tuberculosis, since healthy tissue as a rule repels any attempt of the germs to establish themselves, and, were this not so, humanity ere now would have been exterminated.

The bacilli, or their putrefactive products termed ptomaines, enter the circulation, and by their effect upon the heat centres cause an elevation of temperature, which is an outward expression of the inward conflict that is being carried on to expel the poisonous principle, and as all nature is rhythmical in its action, the fever partakes of this inherent character. Hence the cessation of the pyrexia is a sign of the inactivity of the fermentation, and if the organic structures have not suffered too great havoc in the struggle, recovery from the affection may take place; but if the tissues are extensively destroyed, death may ensue from the inability of the patient to survive the disorganization. Thus the famous saying of Niemeyer, that the greatest danger for the majority of consumptives is that they are apt to become tuberculous, must undergo revision in the light of recent developments; for the greatest danger now threatening mankind is that cells of a retrograde metamorphosis may chance to encounter the tubercle bacillus in its wanderings.

Bacteria abound in enclosures and in densely populated towns, whereas they are not found, especially at great elevations, in the open country. Likewise phthisis prevails to a much greater extent in the cities than in rural districts, and among the sedentary than amid those otherwise circumstanced, and, practically, the disease seldom exists at high altitudes. Domesticated animals that are crowded together and wild beasts confined in cages often die of tuberculosis. So, also, soldiers packed too closely in barracks, and inmates of prisons with insufficient breathing space have an excessive mortality from consumption.

While we believe that the germs of tubercle are not often directly transmitted to offspring, nevertheless, degraded cells enter into the new organisms, which form an inviting nidus for the ubiquitous bacillus. If it is true that each of the millions of cells that constitute the individual has a representative in the protoplasmic matter which combines for the evolution of the succeeding generation, then it is not strange that the cells which go to make up the lungs in another development should be relatively deficient in vitality. There is no difficulty in comprehending inheritance among some of the lowest forms of life, for the homogeneous body of the parent simply divides in two or more parts, a process called fission, and ceases its personal existence, while the descendants continue their separate lives, similar in every respect to the proximate ancestor. But, when we rise to the more highly evolved and differentiated animal texture, where each cell has its special function, and all cells a mutual dependence, such self-division would be fatal alike to parent and child. Hence the hypothesis of an assemblage of physiological units representing the entire fabric of the body in the sperm-cell and germ cell of the progenitors, whose integrity in this process is practically maintained. This comprises all there is of the so-called inheritance of phthisis. On the other hand, an acquired insecurity from the pathogenic germ is due to innumerable causes which conspire to lower the tone of the system in general, and of the lungs in particular. One source of structural weakness which has especially impressed me is that the waste products circulating through the organism are ofttimes not properly oxygenated on account of defective respiration, and these form an attractive field for the harmful bacteria; whereas, a thorough daily bath of the tissues in well-purified blood consumes the ptomaines, and by keeping the cells of the body in a sound condition starves the germs that have chanced to gain admission. Furthermore, in my opinion, some of the undefiled animal fluids alone are the best germicides. An illustration of the probable truth of these suppositions is the marked infrequency of phthisis in those who lead active outdoor lives as compared with persons of sedentary habits, and, while it is partly to be explained by the increased danger of infection in the latter, still, the other element in the causation is not always sufficiently appreciated.

I must devote a moment, in passing, to the very ingenious and interesting interpretation of one of the supposed functions of the white blood-corpuscles. They are thought to exercise a sanitary supervision throughout the frame, and, whenever poisonons ptomaines or disease-producing germs lodge therein, these guardians of the vital economy rush to the place of danger, and there, closing about the intruders, endeavor to destroy them, and thus protect the system from noxious invasion. Whereas, opposing this ingenious answer to a very perplexing question, follows the assertion that these leucocytes do not kill the bacteria, but that an innate though varying germicidal power exists in the healthy blood-serum, while the white corpuscles are, in a limited degree, the scavengers, as it were, rather than the custodians of the tissues, and this belief is more in harmony than the former one with the theory which I previously advanced.

Now let us consider what would naturally follow if this little micro-organism is, what many believe it to be, the exciting cause of phthisis. It is found almost constantly in large numbers, among the material coughed up by diseased subjects, and it is known to retain its vitality for varying periods after desiccation; consequently, there is every reason to suppose that the bacteria floating in a fine dust about the air, more especially of a room, would find their way by inhalation into the lungs. Also, they might fall upon an abraded surface and be carried into the circulation. Likewise, they would settle upon articles of nutriment and be taken into the stomach, and thence, by absorption, into the system. Further, tuberculosis taints some of the many animals utilized by man as food, and the bacilli are found in the milk of infected cows. Therefore, these germs might be introduced into the system with underdone meat and in milk that has not been boiled.

Wherever the population is most dense, there the disease ought to prevail, and particularly among the poor and the ignorant of our community.

Again, conversely, what has been revealed day by day, to verify these inductions? Long before the discovery and cultivation of the micro-organisms, pulmonary consumption was conveyed to the lower animals by inoculation.

Dust taken from the walls of rooms in private houses and public hospitals, occupied by phthisical patients, in the same manner, has been productive of tuberculosis with these helpless victims of scientific investigation. Then of a number of dogs made to inhale the dried sputa of consumptives, a few became infected within three weeks, and, ultimately, all gave evidence of the malady. What is more, the disease has been induced in rabbits, lambs, and swine by milk from diseased cows, and several animals have been contaminated through feeding upon meat that was tuberculous. Finally came the isolation and tillage of the specific bacillus already noted, which still caused phthisis when introduced into the system under favoring conditions.

The death-rate from tuberculosis in some cloisters has been as high as fifty per cent., and in many prisons it has risen above sixty per cent. And the loss of life from this cause among manufacturers is said to be twice as great as that of agriculturists.

After many years of regular, though not constant, relations with phthisical patients, my experience leads me to the conclusion that either the disease is never contagious in the common acceptation of the term, or else the physi-

cians whom I have known under similar conditions to myself are especially exempt from such influences. And the former seems the more rational conclusion; but, on the other hand, it has been amply demonstrated that persons living in permanent intercourse with these patients often become infected with the disease. Moreover, the examples of its dissemination under these circumstances are too frequent to be accounted for by mere coincidence. Indeed, the mortality among nurses between the ages of fifteen and twenty is shown by Cornet to be six times greater than that of the entire population.

The well-known experiment of Trudeau aptly illustrates certain points I am desirous of making clear, therefore I briefly touch upon his investigation. Some rabbits inoculated by him with the tubercular bacilli, and placed in relations deleterious to health, became tuberculous. Another group of these same rodents, likewise confined, but not subjected to infection, did not develop the disease. While still another group, like the first, inoculated, yet not put in a similar situation, but, on the contrary, favorably located as to hygiene, mostly escaped the malady.

Enlarging upon the mortality of phthisis, in order to emphasize the importance of an intelligent and systematic prophylaxis, we must not lose sight of the fact that this affection is somewhat self-limited, and that it has not infrequently blazed up, or smouldered for a time, and then died out for lack of fuel. So that the death-rate in proportion to the number of cases, could they be known, is not, after all, so alarming. And that the bacteria do not multiply outside the animal body, and that the breath of human beings does not, as a rule, contain these microorganisms, are facts in favor of the limitations of the virulence of the malady.

With regard to the detection of the disease in the beginning of the course, I must confess that our resources are circumscribed, and that, at this stage, the history and symptoms bear an equal if not a greater weight than the physical signs upon the results of our examination.

In the treatment of pulmonary consumption we have two factors to consider, namely, the predisposing and the exciting causes, and one is as momentous in its effects as the other.

There is a truism common to all living things from the lowest to the highest: existence cannot long continue without food, and the food of the tubercular bacilli are the debased blood and tissue which have been inherited or acquired. To mitigate a baneful inheritance and to regenerate a vital decadence are the indications on one side, while, on the other, the bacteria not only must be deprived of sustenance within, but also actively pressed to extermination outside the human organism. It seems to me, at this epoch of things medical, a mistaken and too hasty generalization to conclude that, after the bacilli have entrenched themselves in the system, that their destruction can be accomplished without, at the same time, destroying their entrenchment. First, then, comes the subject of inheritance, about which a strange lethargy appears to have settled upon mankind. The stupid disregard that is still shown by many to the entire physiology of animal life is only excelled by the appalling consequences that overtake the innocent martyrs to parental negligence. A man with a tubercular family history, and possibly a phthisical diathesis, should be made to understand that he is a potential source of much sorrow and misery if he selects for a wife a woman with a similar record and constitution. Contrariwise, an intermarriage with a family free from all such predispositions will do not a little to curb that downward tendency. Therefore a child with good blood for a legacy, even from one parent, has every reason to expect immunity from the disease, if he is reared intelligently. Such children must be properly clothed, very carefully fed, and encouraged to spend the greater part of their daily life in the open air, and not in the too frequently ill-ventilated school-room. Probably nothing is more conducive to the complete renovation of the inner man than horseback riding. Vocal gymnastics is another useful exercise for the same object. And the regular practice of deep breathing with closed mouth out-of-doors, for both child and adult, while the bloodstream is coursing through the veins, is a purifier that is equalled by no drug in existence.

The necessity of destroying the expectoration of consumptives is imperative, because the dried sputa still contain bacilli in great numbers, which lodge in every corner and cranny of a house, whence they are stirred up and inhaled by the patient as well as his associates. While rigid adherence to a thorough disinfection of all clothing and utensils exposed to contamination will reduce the danger of close companionship to a minimum, nevertheless, the only absolute safety lies in segregation; seeing that, to occupy the same bed, or merely the same sleeping-room with a sufferer from this disease is to court a similar fate if not to insure it.

Our legislators would do well to investigate an impending danger from the laxity in the inspection of cattle and milk, for upon the nature of the food-supply depends the health of the citizen and the welfare of the commonwealth. In fact, the old saying that an ounce of prevention is worth a pound of cure has lost none of its significance in the developments of bacteriology.

Although we have no drugs that will cure pulmonary consumption, yet we are in possession of many useful remedies for its trying symptoms. And, dealing with the disease, it is of primal consequence to keep in view the goal for which we may reasonably strive, namely, to elevate the tone of the tissues and the fluids that bathe them to a sanitary pitch, where they themselves are the best of germicides. Bacteria do not thrive upon such nourishment.

An explanation of the fact that rapidly gained fatness is not always attended by a like increase in the strength of a phthisical subject is found in the statement that this kind of accumulation implies physiological impoverishment, and, associated with it, there is often a deposit of oil in the tissues, where there should be more highly vitalized elements. That is to say, obesity is accompanied by more or less fatty infiltration, if not degeneration.

Migration promises much for a patient, but I desire to distinctly state my belief that there is nothing which can be deemed specific in any climate. Moreover, what special influence certain regions will have upon the individual cannot be foretold with that precision often attempted by the over-confident practitioner. To be sure it does not appear unreasonable to suppose that a mild sedative atmosphere is best suited to a delicate, highly nervous organization, which naturally shrinks from the all-important out-door life in the low temperature of the highlands; and, contrariwise, a vigorous, phlegmatic subject of tuberculosis in its early stage would do well in the clear, cold, bracing weather of a mountainous country. But, notwithstanding all this, experience produces very anomalous results, inasmuch as one of the most remarkable recoveries from phthisis that I have known occurred in a charity patient at my clinic in the not over-salubrious air of New York.

Solar light and heat are the sources of all life, and just in proportion as plants or animals are deprived of the sun's rays they become deficient in vitality. Consider, for instance, the low grade of human development in the Arctic regions. A majority of the natives are so busily engaged in converting food into the heat essential to simple existence that all higher physiological and sociological evolution is dwarfed by the struggle. The stimulating effects of cold, combined with the all-vital sunlight, is undoubtedly of benefit to those sufficiently vigorous to respond to the stimulation. On the other hand, the balmy air of a more temperate zone, also purified by these life-giving rays, is not infrequently best constituted to restore the lost strength of sufferers from consumption. Hence we find that some improve in a cold, others in a warm climate, and there is no tangible reason because one person prospers in a place that another will have the same

experience. Even the dampness of a sea-voyage, provided the ship is well ventilated, does not outweigh the benefits of unlimited pure air. Still, I would enter my protest against the indiscriminate sending of patients from home and its comforts. The annoyances of travel, and the depressing effects of an enforced absence from one's fireside, oftentimes hasten rather than retard the onward progress of a malady already, perchance, too far advanced toward a fatal termination. Furthermore, banishing a patient to some place barren of everything but climate not infrequently defeats the purpose of the change, so slight is the opportunity for suitable diversion. And now and then consumptives are demoralized beyond measure at sanitaria by daily contact with those suffering with the same complaint.

In conclusion, let me briefly reiterate what I have been endeavoring to prove, that phthisis pulmonalis is an infectious disease, only the soil must be fertile or the bacteria will not take root and grow; that the inheritance of the affection is simply the descent of the degraded cells presenting a vulnerable point for a possible encounter with the vagrant germs. That all specific treatment is futile, in view of our present knowledge; and though persistent destruction of the infectious matter is our best means of prophylaxis, yet to restore the vitality of the lung-tissue is as important as to destroy the tubercular bacilli. And, moreover, not a few cases of phthisis have a self-limitation, which is a comforting thought for whoever is afflicted, while, at the same time, it is a disquieting reflection for the numerous noisy advocates of the very latest unfailing remedy.

37 West Thirty-second Street

STUDIES IN THE DECIDUA AND RETAINED MEMBRANES OF THE OVUM.

By EDWARD A. AYERS, M.D.,

Lecturer on Obstetrics in the New York Polyclinic.

In my investigations with the microscope of retained membranes I desired to note some of the changes leading to death of the ovum, its retention, and consequent alterations. The main points I claim to have observed are: First, transformation of the epithelia in the utricular glands in some portions of the decidua into decidual tissue; second, an inflammatory process in the avascular amnion, which I term amnionitis; and third, decidual hyperplasia.

Case I. *Retained Decidua, showing Transformation of Epithelia in the Utricular Glands into Decidual Tissue.*—The metamorphosis here observed, involving as it does the mooted question of the limitations in epithelial tissue transformations, deserves a minute and conscientious description.

In a normal uterine mucous membrane we find, previous to menstruation, the base embedded in a muscular stratum of great thickness, as compared with the same in other organs. Previous to the first menstruation the middle stratum or corium is about one millimetre (one-twenty-fifth inch) thick.

After the first menstruation it becomes permanently about two millimetres thick. It is composed of loose vascular connective tissue containing few fibres but much structureless interfibrillar substance, and has scattered through it very numerous, round, fusiform, or irregularly shaped granular nucleated cells. The inner surface is lined by a single layer of columnar ciliated epithelia. The numerous tubules or utricular glands which open into the uterine cavity pierce this layer at different angles; not as drawn by Weber, and since so often copied into various text-books, where they appear as straight parallel tubes entering the uterine cavity at right angles, but usually at an angle of about forty-five degrees, though the most conspicuous feature is the irregularity of their arrangement. They branch as they go deeper into the mucosa, where they are very irregularly distributed. The walls of the utricular glands are composed of a very delicate fibrillar tissue, arranged concentrically and attached externally to the interglandular connective tissue. Internally is a single layer of ciliated columnar epithelia, unenucleated, continuous, and apparently indentical in structure with the columnar epithelia lining the free surface of the uterine cavity. The epithelia in the glands are attached to one another by a transparent intercellular cement substance. They are generally uniform in shape and size.

Preliminary to the menstrual flow there is a marked growth in the interglandular connective tissue, the mucous membrane becoming from three to six millimetres thick; the lymph-channels widen and the glands become longer, wider, and more patulous; the blood-vessels become overdistended and either extravasation or diapedesis follows, probably extravasation. So far authorities agree. According to Kundrat and Englemann fatty degeneration of the glandular epithelia the inter glandular blood-vessels, and the connective-tissue corpuscles follows the superficial desquamation of tissue. This fatty degeneration is limited by them to the superficial layers of the mucosa, the new mucous membrane arising from the intact deeper layers. Leopold opposes the theory of fatty degeneration, while Williams holds that the entire mucous membrane is removed at each menstruation, the new membrane being regenerated from the muscular coat.

As against Williams' view, Klebs and Heller holds that the epithelium of mucous membranes is reproduced only so long as the deeper layer or matrix of epithelial cells is intact, and that when these are destroyed the cells at the margin fill in the gap, and if the marginal epithelia are also wanting, the space becomes occupied by cicatricial tissue.[1] In short, it is a general law that like tissues produce like tissues, or the space is occupied by cicatricial connective tissue.

Self-regeneration of striped and non-striped muscular tissue has been shown, through the researches of Kraske, Erbkam, and Heidelberg,[2] to occur to a limited extent, but not the regeneration of mucous from muscular tissues. If now the epithelia of the utricular glands be considered as a tissue distinct from decidual tissue, in the sense of the general law of regeneration just given, it follows that that law must have exceptions or that I have incorrectly interpreted the observations I am about to describe. On the other hand, decidual tissue and epithelial tissue may not be distinct in the sense of that general law, in which case no conflict will be resultant. Passing now to special observations of my own, the membranes I examined were from specimens obtained by Dr. Boldt, who curetted the uterine cavity of a girl, twenty years of age, she having recently aborted. The decidua was of about two months' growth. The specimens I examined were stained in ammoniacal carmine and mounted in glycerine. With low powers of the microscope the presence of utricular glands is readily recognized, characterized by the lining of the columnar ciliated epithelia and a distinct calibre, both in transverse and oblique sections. A large number of sinuous venous cavities is likewise present, varying in size and mostly filled with disintegrating blood, composed of granules of a greenish color, owing to their preservation in a chromic-acid solution. As some of the smaller veins contain unchanged blood-corpuscles, it is reasonable to believe that the circulation in the veins holding disintegrated blood had ceased some time before the removal of the membrane, and the changes incident in thrombosis occurred.

Between the glands and the venous cavities is a well-pronounced decidual tissue of the myxomatous type, traversed by a moderate number of capillaries, most of which contain unchanged blood-corpuscles. The myxomatous net-work of the decidual tissue varies in size in different places, being small around the veins and wide in the portions between the veins at the periphery of the

[1] Landois and Stirling, p. 402. [2] Ibid., p. 403.

nodule (see Fig. 1). The "decidual cells" of Friedländer or Kölliker, termed by Hirst "enormously enlarged young connective-tissue cells," occupy the greater portion of the interglandular space.

The utricular glands seen in Fig. 1 all show more or less alteration from a normal outline. They are all much enlarged as compared with those in the endometrium previous to impregnation.

In those portions of the glands where no structural change has taken place the columnar epithelia show the

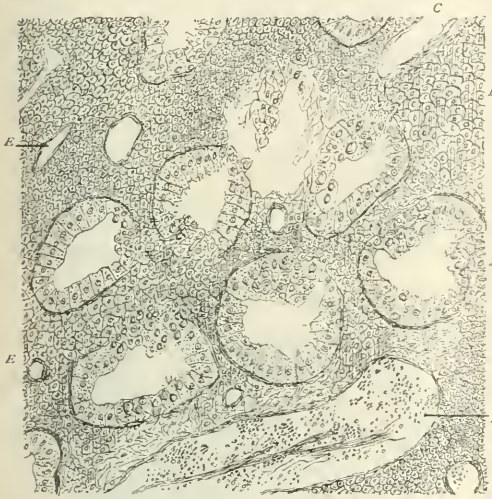

FIG. 1.—*A*, Utricular gland; *B*, decidual tissue; *C*, empty vein; *D*, vein filled with disintegrated blood; *E*, *E*, capillaries of decidual tissue.

characteristic features of form and arrangement, and are possessed of single nuclei of large granular appearance. The cell substance has a granular appearance finer than that in the nuclei. The cilia are not preserved, having been lost in the preparation of the specimen. Surrounding the epithelia is a circular band of delicate fibrillar tissue, termed anhistous or formless by Velpeau, which is continuous in the unchanged portions of the glands, being interrupted or lost in other parts. The calibre of the glands is changed as the epithelia have become altered. In the altered portions of the glands the changes noted are as follows: In the columnar epithelia a varying degree of change in form and construction is seen, so that they are no longer "columnar" but most irregular in shape and have become more or less divided and subdivided. The unusual arrangement of single nuclei has disappeared, but each subdivision of the cells now holds a nuclear body more homogeneous and refractive than the original nucleus. Where only a limited part of the epithelial ring is involved in this change the free inner margin of the cells extends or bulges and occupies a portion of the calibre of the tube, thus rendering the cavity sinuous and irregular. At the same time the outer boundary line, the circular anhistous tissue, is lost, and the altered epithelia appear to be morphologically similar and continuous with the adjacent decidual tissue. Where the tissue change has involved a majority of the epithelia, the calibre of the gland is invariably reduced, as if by compression. In the highest degree of this change only a vestige of the calibre is left, which then disappears, being filled with decidual tissue. These changes obviously lead to a destruction, as such, of the utricular glands and deserve our most careful attention. With higher powers of the microscope the gradual changes of the utricular glands, particularly the epithelia, can be traced to their complete disappearance through metamorphosis. In Fig. 2 is shown a utricular gland magnified five hundred diameters. In a considerable portion of the tubule the columnar epithelia are essentially unchanged; they retain their usual form, are possessed of single nuclei, showing the coarse granules with finer granules entering into the construction of the "cell-substance." The lateral union of the epithelia shows a double line with the interspace filled with the so-called "intercellular cement substance." At their base is the anhistous tissue which forms the outer boundary of the tubule. In the remaining portion of the tubule a generative change has begun in the epithelia; they have lost their regularity of form, have become divided and subdivided. The intercellular structure is in a transitional stage, being reduced to a single line of division and the single nuclei have given place to many nuclei of varying appearance, size, and location.

There is now to be seen a multinuclear protoplasmic mass, representing an increase in tissue, as is shown by its encroachment on the calibre of the tubule. The increase in size, and especially in number, of the granules or new nuclear bodies in place of the previous nuclei is marked. These bodies are recognized as "mother-cells," the term for endogenous new formation in epithelia. This latter process is understood to mean a splitting up, or better, a division of, and increase in, living matter in the nuclei of epithelia—that is, karyokinesis. This process, in addition to the views of Schumann, is now, owing to the more recent researches of Bütschli, Flemming, Van Beneden, Waldeyer, and others, recognized as one of the most important biological discoveries of the past twenty-five years, particularly on account of its relation to fertilization of the ovum. This process invariably occurs in inflammatory and other changes in epithelia, leading either to a new formation, or growth, or a reduction into a medullary or embryonal condition of the epithelial tissues. Not infrequently light, so-called plasmatic spaces surround the newly formed granules or nuclei. Observing further we see the second stage, the so-called medullary or embryonal, in which the epithelia break up into nucleated protoplasmic bodies, varying in size, and

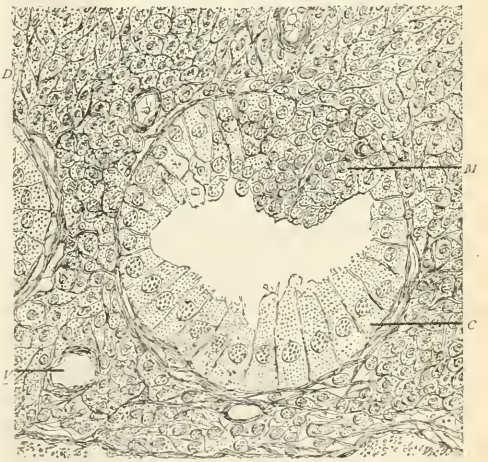

FIG. 2.—*C*, Columnar epithelium of utricular gland, unchanged; *M*, epithelium transformed to medullary tissue; *D*, myxomatous decidual tissue; *V*, capillary blood-vessel in transverse section.

separated from one another by light lines of an intercellular cement substance. This cellular division is seen to be most complete in the more central parts of the changing tissues, and only partial at the junction with unchanged epithelia. The intercellular cement substance shows in its construction a certain amount of living matter, and by a consolidation produces the myxomatous

reticulum, while the original medullary bodies have grown up into nucleated so-called "decidual cells," now considered as protoplasmic masses filling the meshes of the myxomatous reticulum. I have mentioned that in places at the periphery of the tubule, where the transformation of the epithelia is going on, the bordering line of the utricular gland is lost, and the medullary tissue sprung from the epithelia blends without demarcation with the adjacent decidual tissue, as is shown in Fig. 2.

Decidual tissue is generally admitted to be myxomatous connective tissue. Most modern microscopists limit the variability of epithelial tissue to such a degree that only epithelial formation can be derived from it. It is clearly shown in my specimens that there is a transformation of the glandular epithelia through an intervening stage of embryonal or medullary into decidual tissue.

The objection may possibly be raised that I have misinterpreted the changes observed; that the transformation was one of proliferation of the extra-glandular decidual tissue and its substitution for the epithelia. The alteration in the epithelia was not a degenerative or destructive process, no desquamation had taken place. The various grades of endogenous new formation in the epithelia can be clearly seen. Nor does the circular anhistous tissue, which surrounds the glands and stands as a barrier between the epithelia and the outer decidual tissue, disappear until the alteration in the glandular epithelia is well advanced.

On the other hand, it cannot be claimed that the specimens here described permit the claim that all decidual tissue arises from the glandular epithelia. Ercolani[1] holds that the human decidua is, for the most part, a product of exudation from the utricular glands. The "epichoreal" decidua (reflexa) has no utricular glands.[2] They are present in both the "placental" decidua (serotina) and "uterine" decidua (vera), but remain open longer in the former than in the latter, where they are finally found only in the deeper layers.[3] It is probable, therefore, that the specimens herein described are from the decidua uterina or vera.

How do the statements here made harmonize with our present knowledge of tissue regeneration?

Without attempting an extended answer to this question, I wish to suggest a few points. Quoting from Professor Marcy:[4] "Except as viewed by Ercolani, the opinions which have been entertained concerning the origin of the cells which enter so largely into the formation of the maternal portion of the placenta have been exceedingly vague and uncertain. Professor Turner, although concisely affirming, with Owen, that without decidua there is no formation of placenta, does not touch the important question of the origin of the decidua. Professor Kölliker confines himself to the remark that the decidua is a transformation of the uterine mucous membrane, and not a new membrane or the product of an exudation, as was once believed. It may be observed, however, that Professor Kölliker does not attempt to show which are the elements in the mucous membrane that compose the decidua, nor by what means they are transformed, although such an investigation should be of the highest interest to him, since the glandular follicles of new formation, as demonstrated by Professor Ercolani, and largely confirmed by Turner, were only declared by him to be tunefactions of the pre existing uterine mucous membrane, formed during pregnancy and disappearing after delivery."

As a rule, the glandular epithelia of mucous membranes, derived from the internal layer of the blastoderm, perform their chief physiological function by entering in, following desquamation, as an essential part of the secretion poured out by the glands, as in the lactiferous glands, for example. In the utricular glands, however, the secretion during non pregnant periods is an indifferent mucus having no nutritive function. I agree with Dr. Putnam Jacobi,[5] that "since it is from the epithelium (the original hypoblast elements) that the serotina or 'glandular organ' of the placenta is formed, and since it is the epithelium from which the entire mucosa is regenerated, both after parturition and after the less severe exfoliation of menstruation, it is evident that the epithelium is of great importance among the elements of the endometrium. The epithelium of the glands is simply a prolongation of that lining the cavity in a series of convolutions. From this point of view these glands may be considered simply as folds of epithelium, convoluted as is the surface of the brain, by the usual organic device for multiplying extent of surface within a given space." Comparative anatomy and physiology present facts that favor this view. For example, the hare has no utricular glands—simply crypts lined by involutions of the surface epithelium.

A comparison of the conditions present in extra-uterine tubal pregnancies with those of intra-uterine, gives striking evidence in favor of the views here expressed. Here we can eliminate the "different species" equation, and obtain some knowledge of essentials in gestation. The Fallopian tubes have no glands, but an extensive

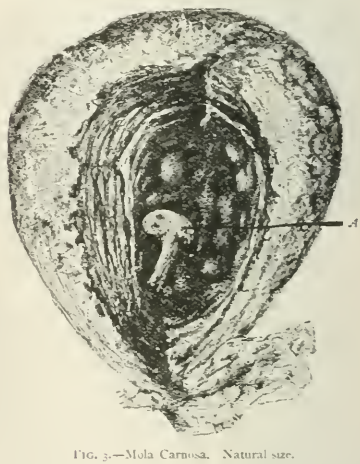

FIG. 3.—Mola Carnosa. Natural size.

surface of involuted mucous membrane resting upon a muscular base. The free surface of the mucous membrane, which if stretched out would be very extensive compared with the space it occupies, is lined with ciliated columnar epithelium, differing in no way apparently from that lining the endometrium, except that the cilia move in the opposite direction, each moving in the direction of the cornua. Notwithstanding the absence of any glandular arrangement in the tubes, a successful gestation is quite possible. Nor is the customary premature termination of gestation by hemorrhage or rupture apparently due to the inability of the mucous membrane to perform its share in the unusual gestation.

The utricular glands cannot be said to be essential, then, as glands whose function is to supply a secretion or excretion, and doubt may fairly be cast upon the theory of Ercolani, that the decidual tissue is for the most part a "product of exudation from the utricular glands."

CASE II. *Fleshy Mole: Decidual Hyperplasia and Amnionitis.*—The specimen obtained in this case, which was presented to me by Dr. McGillicuddy, is of unusual occurrence and interest, and justifies some special attention clinically as well as microscopically.

Mrs. M— —, aged thirty-four, married five years, had two children and afterward two miscarriages. Her first

[1] Ercolani: Utricular Glands of the Uterus (Marcy), pp. 24 and 134.
[2] Landois and Stirling, p. 883.
[3] Hirst's American System of Obstetrics, vol. i., p. 257.
[4] Placental Development, Transactions of North American International Medical Congress, vol. ii.
[5] Mary Putnam-Jacobi. Studies in Endometritis, American Journal of Obstetrics, March, 1885, p. 270.

miscarriage occurred in February, 1888, at two months' gestation. Menstruation was resumed the following 12th of June. Impregnation followed. Morning sickness developed during the latter part of July. August 10th, a uterine hemorrhage ensued, supposed to have been caused by lifting a heavy trunk. The hemorrhage lasted three days. No pain was experienced. Hemorrhages followed on September 9th and November 8th. The latter lasted seven days.

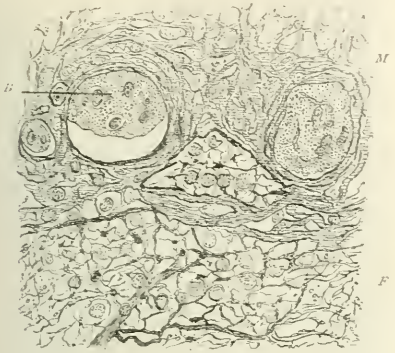

FIG. 4.—*B*, Protoplasmic buds; *F*, coagulated fibrine: *M*, hyperplastic myxomatous reticulum of decidua.

when, preceded by severe pains, the specimen shown in Fig. 3 was passed from the uterus. A segment has been removed to show the cavity, in which is seen, in natural size, a fœtus of four weeks' development, attached to the wall of the ovum by the allantois.

From the history and the stage of development shown by the fœtus, its death must have occurred in August with the first hemorrhage. It is somewhat remarkable that during the three months in which it was retained, no absorption of its tissues took place. The cavity in which the fœtus floated was lined with a smooth, but nodular, corrugated membrane—the amnion. The dense tissue composing the wall or body of the mass was traversed with clotted blood; the latter, indeed, representing the greater part of the mass. Nevertheless, it is more properly termed a "mola carnosa" than "mola sanguinea."

Although the embryo died at the end of four weeks

FIG. 5.—Diffuse Hyperplasia of Decidual Endometrium. — 500.

yet the placental tissue continued to develop, pathologically, up to the time it was expelled.

The mounted specimens prepared from it, if viewed with low powers, show the main mass consisting of blood-clot; in some places with masses of red blood-corpuscles, in others with masses of coagulated fibrin. Imbedded in these masses are seen remnants of villosities, cut in all directions, mostly compressed and with but scanty vestiges of blood-vessels also compressed and collapsed.

The placental tissue is preserved in but few places, and in a peculiarly altered, condensed condition. The periphery is composed of the amnion-producing nodular bulgings from the adjacent decidual tissue, and greatly varying in thickness in different parts of the specimen.

Some portions of the amnion are very little changed in thickness, and in this situation are characterized by a lining of short columnar epithelia toward the cavity holding the amnion.

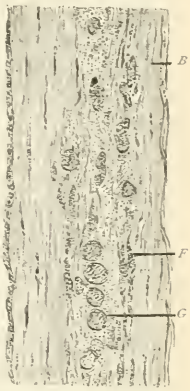

FIG. 6.—Acute Amnionitis. *E*, single epithelial cover; *B*, fibrous basis-substance: *F*, spindle-shaped protoplasmic bodies; *G*, inflammatory capsules proper.

Other portions are about twelve times as thick, and thus likewise cause irregularly corrugated and nodular protrusions. Such places show a variety of protoplasmic bodies, either globular, oblong, or spindled, imbedded in a dense striated tissue, obviously the outcome of a chronic formative inflammation. As I was able to trace the different stages of the inflammatory process from its first stage in the acute form up to a marked increase of the amniotic tissue, I am induced to describe a, so far as I know, hitherto unknown pathological process, for which I propose the term, amnionitis.

Obviously this process was caused by the hemorrhage in the underlying placental tissue, the extravasated blood acting by mere pressure as an irritating agent.

With powers of six hundred diameters the attention is first fixed upon the villi, which are imbedded in, and surrounded by, either coagulated fibrin or compressed decidual tissue.

These villi are lacking the original myxomatous tissue altogether. In its stead we find a finely striated tissue, evidently fibrous connective tissue, with a varying number of partly branched, spindled protoplasmic bodies.

This tissue could not have arisen from compression of the original myxomatous tissue, but must have come after

FIG. 7.—*E*, Covering epithelium; *F*, newly-formed fibrous connective tissue: *G*, spindle-shaped and globular protoplasmic bodies; *C*, clot of blood.

inflammatory processes that had led to the new formation of the fibrous tissue, and obliteration of the majority of the blood-vessels. It seems that some time elapsed between the advent of the hemorrhagic infarctus and the ultimate changes in the villi. In a few villi I have observed a large number of closely packed protoplasmic bodies, oblong and spindled, the only intimation of early formation of fibrous connective tissue. In a few places

I have met with transverse sections of villi, which, instead of being myxomatous or fibrous, are composed of protoplasm with a few interspersed globular or oblong nuclei (see Fig. 4). Such places were found mainly at the junction of chorionic villi and decidua.

My studies in development of chorionic villi and placental villi cause me to make the suggestion that we have here to deal with protoplasmic buds of fully formed villi in a stage of indifference. I have observed that the villi grow by sending out protoplasmic masses, either sessile or pedunculated, starting from the epithelial cover of previously formed villi. Such buds are either made up of a uniformly granular protoplasm or of a multinuclear protoplasmic mass without any differentiation into epithelia, myxomatous tissue, or blood-vessels.

Since such protoplasmic buds were found surrounded by a dense fibrin of coagulum, it is reasonable to assume that this coagulum produced a wall around the buds, protecting them against compression or further changes. It is less likely that the protoplasmic buds penetrated into the coagulum. The decidual tissue, when present, is likewise characterized by the absence of the myxomatous reticulum and the presence of a delicate fibrous connective tissue, with varying number of oblong or spindled protoplasmic bodies (connective cells) imbedded in it. Very exceptionally we meet with a myxomatous reticulum composed of broad trabeculæ with nuclei at the points of intersection.

The meshes of this reticulum show decided variation in size and contain a finely granular albuminous coagulum (see Fig. 5). Here a hyperplasia of the myxomatous reticulum seems to have developed, such as we sometimes observe in the lymphatics of the uterine mucosa in consequence of chronic endometritis.

Amnionitis.—The most striking features are seen in the inflammatory changes of the amnion. Being a non-vascular tissue it affords an excellent opportunity for the study of inflammatory tissue changes, almost as good as the much discussed cornea. Some pathologists consider tissue changes in inflammation a mooted question, looking upon inflammation as an emigration of colorless corpuscles in accordance with Cohnheim's theory. Of late this theory has lost ground, particularly in Germany. My specimens prove the presence of tissue changes with great certainty, a fact whose influence is in the direction of a broader definition of inflammation If Cohnheim is right in saying that an aggregation of leucocytes is inflammation, from whence should we imagine protoplasmic bodies in the inflamed amnion to have sprung? There are no blood-vessels, and all the blood-vessels of the subjacent placental tissue have either been compressed or destroyed by hemorrhage. The inflammation set in after this hemorrhage and there was no chance for the leucocytes to

FIG. 8.—Subacute Amnionitis. × 50. *A*, Enormously thickened amnion; *V*, *V*, villi of dense fibrous connective tissue; *C*, clots of blood.

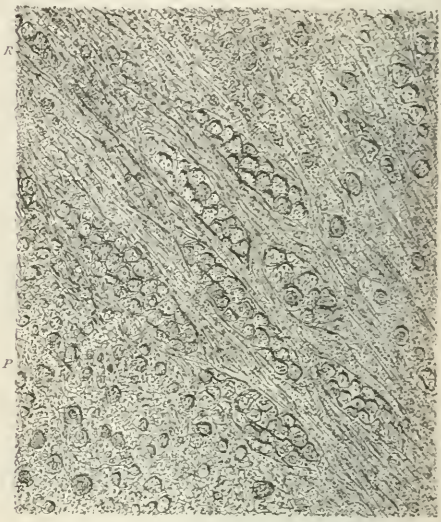

FIG. 9.—Acute Amnionitis. *R*, Rows of medullary corpuscles; *B*, slightly fibrous basis-substance in process of reduction to protoplasm; *P*, accomplished reduction of basis-substance to protoplasm.

emigrate from destroyed blood-vessels. By Heitzmann and Stricker it is claimed that both the cells and the basis substance surrounding the cells are made up of protoplasm and are endowed with life. In inflammation a liquefaction of the basis substance takes place and the protoplasmic condition reappears, leading to an increase of the living matter and the appearance of inflammatory corpuscles that are identical with those embryonal or medullary corpuscles that have originally assisted in building up the tissues (see Fig. 6).

According to Stricker, there exist no migratory corpuscles in the corneal tissues either in the normal or inflamed condition. What has been considered as such is, in reality, an alternating change of protoplasm to basis substance, and vice versa. My specimens of amnionitis show the different stages of this transformation, for we see, first, an increase in the bulbs of the connective-tissue corpuscles, next the reappearance of the protoplasmic stage of the basis substance and the splitting up of the latter into inflammatory corpuscles of wide variation in size and shape.

An inflamed tissue is largely composed of medullary or inflammatory corpuscles, which remain united with one another so long as no suppuration has taken place. Separate inflammatory corpuscles are pus-corpuscles and their sum total is an abscess. So long, however, as the inflammatory corpuscles remain connected the inflamed tissue remains a tissue and is liable to return to the stage of basis-substance. Owing to the increase of living matter the bulb of the inflamed tissue is increased, and as such represents another termination of the inflammatory process, *i.e.*, hypertrophy, or, preferably, hyperplasia. This condition of the tissue is seen as a marked thickening of the amnion, being again fibrous in structure, though supplied with a larger number of protoplasmic bodies than normal (see Fig. 7).

The sequence of changes in the tissue under discussion was first hemorrhage from unknown causes, next irrita-

tion of the amnion and acute inflammation thereof, and at last thickening of the inflamed amnion in certain parts, under the form of hyperplasia. The same process is traceable in the remnants of decidual tissue and its villosities.

The transmutation of the original myxomatous into the final dense fibrous connective tissue was certainly not a direct one, but was through the intervening stage of reduction to the medullary condition, in other words, acute inflammation.

Case III. *Subacute Amnionitis.*—The tissues examined in this case were from a patient two months advanced in pregnancy, the placental tissues or residues having remained in the uterine cavity for six weeks following abortion. On account of metrorrhagia the placental shreds were removed by Dr. Wm. Hanlock of this city. They were placed in a half of one per cent. chromic acid solution and the specimens mounted in glycerine. The image under the microscope closely resembles that of Case II. We see enormous masses of blood with well-preserved red blood corpuscles, islands of previous villi of different sizes, and the whole surrounded by enormously thickened amnion, which partly again is traversed by hemor-

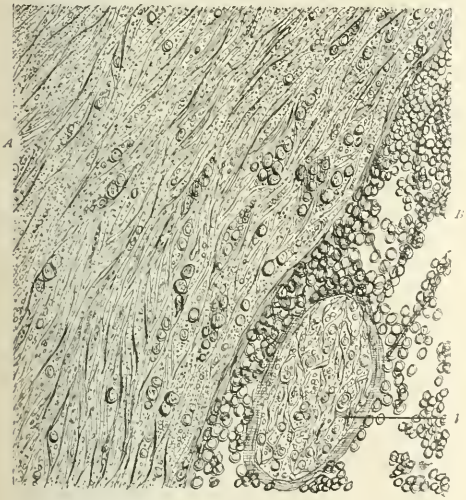

Fig. 10.—*A*, Hyperplastic amnion—dense fibrous connective tissue—protoplasmic bodies; *V*, hyperplastic fibrous tissue of a villus; *B*, red-blood corpuscles.

rhagic infarctions. With low powers of the microscope we recognize a condition of amnionitis and placentitis, more advanced even than in the previous case (see Fig. 8). Portions of the amniotic tissue are in a condition of acute inflammation, and since both the features of acute and chronic amnionitis are combined it may best be termed subacute amnionitis. In order to illustrate the correctness of the views concerning acute inflammation as explained above, I have studied portions of the amnion in an acute inflammatory state, such as were seen best in the immediate vicinity of the blood-clot, with the highest available powers of the microscope, *i.e.*, twelve hundred diameters (see Fig. 9). We see protoplasmic bodies of varying sizes, partly single, partly in clusters and rows. In the latter situation the medullary corpuscles are mostly somewhat polyhedral, as if by mutual flattening. Such rows are most conspicuous where a certain amount of delicate fibrous tissue, *i.e.*, the basis substance of the amnion, is still preserved. That medullary corpuscles may appear in the middle of the basis substance is plainly shown in the right upper corner of the drawing, in the field marked B. The fact is inexplicable, unless on the ground that the basis substance itself is viable. Life, however, is not in the basis substance at large, for we know that there is a large amount of glue-yielding substance which, as such, cannot be the seat of life. This property seems inherent only in the part of the basis substance that is traversed by an extremely delicate reticulum.

Should the glue-yielding part of the basis substance become fluid by its disintegration or liquefaction, the immediate result is the re-establishment of protoplasm in which the reticulum of living matter is seen plainer than in the basis-substance, as demonstrated in the left lower corner of the drawing at P. Here we notice mostly scattered lumps of protoplasm greatly differing in size, from a small, almost homogeneous lump up to a nucleated medullary corpuscle.

The main mass of both the amnion and the decidual tissue is in a condition that we know as hyperplasia. In this condition we see a dense fibrous connective tissue, between the bundles of which there are numerous globular bodies, the so-called connective-tissue corpuscles, in rows or clusters.

These are the remnants of the inflammatory corpuscles which, by becoming spindled, produce the basis substance (see Fig. 10). Amnion is an avascular tissue and, even in a chronic inflammation in hyperplasia, will not show any traces of blood-vessels, contrary to the cornea, which in the same condition is invariably supplied with blood-vessels growing from the periphery toward the centre. The villi likewise exhibit occasional stages of acute placentitis, though their majority is made up of a more or less conspicuous fibrous connective tissue, with an almost complete loss of capillaries. Unquestionably there must have been left a vascular connection with the decidua, for otherwise we could not understand the inflammatory changes of the placenta and amnion.

Instead of becoming necrotic or absorbed, as is the case with tissue-shreds, isolated by hemorrhage, in this case important tissue-changes have taken place which go far toward proving that nutrition of the placenta had not been entirely destroyed.

I wish to here record my indebtedness to Dr. Carl Heitzmann for the use of his laboratory, and especially for many valuable suggestions afforded during my investigations.

126 West Forty-fifth Street.

A CASE OF TEMPORARY COMPLETE AMNESIA ASSOCIATED WITH EPILEPSY.[1]

By OGDEN BACKUS, M.D.,

Rochester, N. Y.

The states of double consciousness and amnesia more or less complete, which are sometimes associated with epilepsy in its various forms, have a peculiar interest, not only from a psychological, but from a medico-legal point of view. Scattered through the whole range of medical literature, but more especially in works pertaining to psychology, are unique cases recorded where the current of normal consciousness is suddenly broken, and the individual enters, metaphorically, another world—a new field of action. He may converse, move about, and to the casual observer be in a normal condition; he has, however, no recollection of past events; the attack terminates and a reversion to the normal state ensues, with no memory for any event which transpired during the abnormal period. Instances of an amnesic condition associated with epilepsy are not uncommon. Ribot relates a case in which an educated man, thirty-one years of age, found himself at his desk, feeling rather confused, but not otherwise ill. He remembered having ordered his dinner, but not having eaten or paid for it. He returned to the dining-room, learned that he had both eaten and paid, showing no signs of being ill, and had set out for his office. This state had lasted about three-quarters of an hour.

[1] Read before the Monroe County Medical Society.

Trousseau reports the case of a magistrate who, attending a meeting of a learned society in Paris, went out bareheaded, walked as far as the Quay, returned to his place, and took part in the discussion, with no knowledge of what he had done.

Spitzka, in his work on insanity, gives the detail in the case of a policeman afflicted with epileptic insanity, who donned his badge, seized his club, and patrolled a "beat" —the wrong one, it is true—but in such a manner as to attract no special notice. He had no recollection of it afterward.

Instances of homicidal and suicidal attempt while in this state are not rare, but the case given by Dr. Clouston, of the Royal Edinburgh Asylum, is certainly, as this well-known alienist puts it, extraordinary. "A young epileptic, fifteen years of age, who was very friendly with me when he was well, used to dislike me very much when excited after fits. On one occasion the attendant found him and another patient contriving to make a weapon with which to assault me or the chief attendant, out of a stocking which the epileptic had taken off, put a stone in the toe, tied a string about this, and had then slipped it up his sleeve till he should have a chance of using it. When he got out of the epileptic condition, he was astonished when told about this, and said he had no recollection of it whatever, which I believe to be true. The combination with another patient, the combined preparation of a weapon, all in a state of epileptic unconsciousness, I could not have believed possible had I not seen it in that patient." Supposing this man had not been in an asylum, and had combined with another in preparing a weapon, waited for an opportunity, and had committed murder; and then assuming a doctor had gone into the witness-box and given evidence that the murderer was quite irresponsible, on account of being in a state of epileptic insanity, and therefore, irresponsible for his acts at the time. With what lofty scorn would the judge have set aside such evidence as being inherently incredible! With what dogmatic assertion the newspapers would point to such an example of a medical man trying to defeat the ends of justice and screen a criminal! What lively ridicule the journals would have poured upon evidence so "opposed to common-sense and to law!" And all because a fact of nature and of disease had been brought out before those who were ignorant of the whole subject. Cases of this character might be quoted indefinitely, but my object to-day is to relate the details of a case of petit-mal associated with this amnesic condition, which I had under my care for nearly two years, and therefore had an opportunity to observe its interesting features on several occasions, from the moment of the attack to its termination.

A. B——, a male, fifty-two years of age, was admitted to the State Lunatic Asylum at Utica, in March, 1885. He was married, had five children, and was a painter by occupation. His family history was good, the only member who had suffered from any nervous affection being the patient's sister, who at times had what the neighbors called the "high-strikes." The patient himself was of a nervous temperament, and always quite emotional. He was in the War of the Rebellion, and toward its close had a sunstroke, from which he slowly improved, returned home, but was considered as eccentric afterward, at times more markedly than at others. After the sunstroke, he had various intestinal and stomachic disorders, and never was in good health. Six months previous to the time when he came under my observation, it was noticed that he had "periods," as the family expressed it, "in which his nature would change;" he would wander off into the woods, have delusions of suspicion, lose all recollection of past events, and at one time made an attempt to jump from the second-story window with suicidal intent, afterward disclaiming all knowledge of the act. These paroxysms would occur from one to three times a day, and finally, while in them he became so threatening toward his family, that, as they were unable to control him, it was thought best to have him committed to the asylum. I questioned his relatives very closely for a history of epilepsy, but they were unable to give satisfactory answers to my interrogations, and insisted that he had never had a fit, to their knowledge. At the time of his admission, I made a rather hurried examination of the patient; he was in a poor physical condition, weak and anæmic; he appeared in a somewhat apathetic condition, and to all questions which referred to his past life, he invariably answered, "I don't know." He could not tell his age, where he lived, how many children he had, or give any history whatever of himself. He appeared to appreciate what was going on about him, however, and would answer any question relative to the present. He asked to go to the water-closet, was introduced to the supervisor of the department to which I assigned him, and conducted himself in a fairly rational manner. He was sent to the ward, and an inventory was taken of everything on his person; he went to the dining-room, had dinner with the other patients, and was given a bath; while in the tub, he seemed to arouse himself, the apathetic condition passed off, he asked where he was, how he came there, where his friends were, and other intelligent questions. Said that the last place he remembered was the railroad station at Utica. I visited him, and during the conversation he told me that "about three years ago he first noticed that something was wrong with his head," had "dizzy attacks," and that gradually these symptoms grew more severe, and afterward were followed by a "burning pain," especially over the occipital protuberance, and an uneasy pulsation in his stomach. Toward evening I again saw him, and his condition was similar to that on admission in the morning, although he seemed more apathetic. His eyes were turned down, pupils somewhat dilated, and there was slight anæsthesia of the skin. He went to supper, however, with the others, and appreciated what was said to him. During the next four days he had several of these attacks, varying from thirty minutes to an hour in duration. His attendant stated that he had not had a fit of any kind, but he appeared to fall from one state into the other without warning. His pulse ranged about 90, tongue coated, and there was marked tenderness of the spine, especially over the last cervical and several of the dorsal vertebræ. Slept fairly well, but appetite was poor. On the morning of the 21st, in order to test his memory, he was questioned closely in regard to his early life and incidents connected with the War of the Rebellion. He stated that he enlisted in the One Hundred and Fifty-third Regiment, New York Volunteers, and was under Captain C——, who was shot at Winchester, and the command then fell to Captain F——. That he was in the battles of Pleasant Hill, Maudsville Plains, Winchester, Fisher Hill, Cedar Creek, and various other engagements, but escaped being wounded. Was ordered to Savannah, Ga., after Lee's surrender, and while on a forced march to Frederick City, he had a sunstroke, and it was several days before he regained consciousness. He was sent to the hospital, and in a month was offered his discharge, which he refused, as he preferred to remain with his regiment. While in Louisiana he had some gastric disturbance, associated with a dull, heavy pain, which would occasionally become of a sharp, lancinating character in the region of the umbilicus. This continued during the service, and after he was mustered out and had returned home, the physicians who examined him in A. and J. said he had cancer of the stomach. There was some swelling of the right side over the pylorus, which gradually passed away. At this point, while trying to recall the names of the physicians who had made a diagnosis of cancer of the stomach, he suddenly stopped, his eyes became fixed on the floor, his pupils dilated a little, and his right hand began to twitch, and there was a slight tremor of the body. He did not respond to questions or appear to feel when touched. His pulse, which was 90 before the attack, now rose to 110, and was full and strong. This condition lasted but a moment, when he

commenced to move his head from side to side. I asked him what was the matter, but he made no reply. I then asked him if he was in the War of the Rebellion, and he said "I don't know." I asked him what his name was, and he told me. When asked how old he was, where he came from, if he had a wife or children, and again whether he had ever been in the war, his only reply was, "I don't know;" to all facts in any way relating to his past life he seemed oblivious. When asked how he felt, he said he had a severe headache. He walked about the ward, brought a chair from the next room, drank some water, and would answer questions rationally in relation to the present; for instance, when asked the number of persons in the room, the number of chairs, the state of the weather, etc., he gave correct answers, but all memory for past events seemed gone. He, however, remembered his name. This state lasted about an hour, when he regained his normal condition, complaining still of headache

During the next week he had several of these attacks, and while in one of them became quite violent and disturbed. Being convinced that the attacks were due to petit-mal, I put the patient on Hamilton's[1] epileptic mixture, and after a few days the attacks ceased; his spirits rose; he became more cheerful and contented; gained in flesh, and said he had not felt as well in years.

In another month the Hamilton mixture was discontinued, and ten days later he had an attack similar to those already described. He was again ordered the remedy, and the attacks were prevented. He progressed fairly well for a couple of months, when he became depressed, apprehensive, suspicious, restless, lost his appetite, and developed delusions, one of which was that a man was constantly pursuing him with a knife. From this time on the patient rapidly drifted into a condition of deep melancholia with suicidal tendencies, had marked hallucinations of sight and hearing, and expressed his delusions freely. Occasionally he would become violent, striking those about him. He was finally transferred to the Binghamton Asylum, as a case of chronic insanity.

I have presented this case as an illustration of an interesting phenomenon, and time does not permit of any dissertation relative to the various causes which may produce this amnesic condition.

Much chaff has been thrown into the subject, and but little wheat winnowed; but I do believe we can draw this conclusion, that in individuals charged with a crime for which, notwithstanding the evidence of their guilt, they protest their innocence and want of knowledge, a close medical scrutiny should be permitted, lest, peradventure, an unfortunate being be unjustly punished for an act for which he is totally irresponsible. Especially is this the case with epileptics, although, doubtless, as Dr. Clouston says in his case already quoted, the medical evidence would be ridiculed and the physician accused of trying to defeat the ends of justice.

A Case of Schmerz-freude, "Pain-Joy."—Professor Leyden recently presented to his class at Charité a young lady affected with "schmerz-freude," says the Berlin correspondent of the *Therapeutic Gazette*. It is a pity I cannot translate that name for you, for "pain-joy" would convey no meaning to you. The patient, as the professor explained, belonged to that class of hysterical women who not only experienced no pain during an operation, but, on the contrary, had a morbid desire to have otherwise most painful operations performed on them without an anæsthetic. The patient in question had, during a paroxysm of hysteria, fractured her lower jaw and injured the facial artery. The injury proved a most serious one, and necessitated the ligation of the facial and carotid arteries, and, finally, the removal of part of the lower jaw. The patient insisted upon having all three operations performed without an anæsthetic, and told the operator that she had derived great pleasure from the operation.

[1] Hamilton on Nervous Diseases, p. 335.

Clinical Department

SURGICAL TREATMENT OF PUERPERAL PERITONITIS.

By Z. H. EVANS, M.D.,

BAY CITY, MICH.

Professor M. D. Mann, of Buffalo, N. Y., says that there is no reason why pus within the abdomen should not be let out as well as pus within the pleural sac, or within any other serous cavity. Under such circumstances the cavity is simply converted into a huge abscess, and as such should be drained. Nor does it make any difference what the origin of this pus may be. It is all the same whether it comes from the bursting of an abscess of the ovary, or from a gonorrhœal salpingitis, or from a suppurative process originating within the uterus after confinement and extending through the tubes to the peritoneal cavity. The pus, if present, must be evacuated before recovery can take place. Several things stand in the way of the general adoption of the operation. One is the traditional fear of the peritoneum—a fear which still lingers in the minds of the general profession, but which has long since vanished from the thoughts of the laparotomist. If there is already inflammation, with pus formation, what worse can happen? What harm can the opening of the cavity do? Such incision, if made with due care, is in itself absolutely without danger, as has been proven over and over again. So if no good is done, as might happen in the case of a mistaken diagnosis, no harm will result. Dr. Joseph Price, of Philadelphia, the well-known authority upon this subject, informs me that he has operated upon some ten cases with very happy results. He says that in well-marked cases where you find something in the pelvis that you can put your finger upon, and when you are satisfied that there is muddy fluid, pus, and lymph in the abdomen, section, irrigation, and drainage is the treatment paramount.

In proof of the above statement I would call your attention to the following case:

I was called, January 25, 1889, to see Mrs. B——, German, aged thirty-four, mother of four children. Upon my arrival at the house I learned from the husband that one week previous to my visit she had miscarried at three months, at which time flooding took place to the extent of saturating the mattress through and through with blood, all of which was allowed to remain on the bed up to the time of my visit. Owing to the stifling stench it was impossible at that time to make any examination. I therefore ordered the bedding to be changed, patient sponged off, and the vagina irrigated with a weak solution of carbolic acid, promising to call again later in the day. At my next visit I found the sanitary condition of my patient somewhat improved, although the stench was lingering still. I then proceeded to the examination of the patient by first taking the temperature, which was found to be subnormal; pulse, 157; respirations, 34; tongue presented a dark, dry fur down the centre, while the abdomen was distended to a marked degree, and the entire body bathed in a cold clammy perspiration. In truth I believed the patient to be in *articulo mortis*. The case being of such a nature I was desirous of the counsel of my friends Dr. E. G. Miner and Dr. John L. Elliot, and requested that they be sent for at once. Upon their arrival they gave the patient a very critical examination, and gave it as their opinion that the patient had but a few hours to live (which opinion was thoroughly in accordance with my own). After communicating to the husband and friends the views of the physicians, he then inquired if there was nothing further to be done to save the life of his wife. I replied by saying the only alternative left was to open the abdomen and wash it out. He at once acknowledged his willingness to permit the operation, and requested that it should be done at once. After a brief consultation with the physicians present we decided

first to try and stimulate the patient. I therefore ordered whiskey, milk, carbonate of ammonia, and tr. digitalis to be injected every three hours during the night into the rectum. On calling the next morning, much to my surprise, I found the patient still alive, and she expressed herself as feeling quite free from pain, which fact led the friends to indulge in the false hope that she was better. This condition of things convinced me at once that it was but one of the early preludes to an approaching death, and so expressed myself to all concerned. In spite of the unfavorable condition, however, I at once made ready for the operation. When the patient was slightly under the influence of chloroform, she was placed on a table opposite a good light, and the abdomen opened as speedily as possible. This accomplished, she was now turned over upon her face and a quart or more of serum allowed to drain away, at the same time I placed my hand over the wound in the abdomen in such a way as to prevent the intestines from protruding. When the serum had all drained out, the patient was turned back upon the table, when, with the aid of a Davidson syringe, the cavity of the abdomen was flooded with plain warm water, and again the patient turned upon her face as before, and the water allowed to come away. The second time it came away clear and free from any tinge or color. A large sized soft rubber drainage-tube was now inserted and carried to the lower portion of the pelvic cavity. Four deep sutures were then passed, and a compress of cotton and flannel binder applied. This constituted the entire dressing. The patient was now placed in bed, more dead than alive, surrounded by dry heat, and by free use of brandy she, after a few hours, recovered from the shock of the operation. On calling the next morning I was delighted to learn that she had during the night taking nearly a quart of milk and retained it, something she had not been able to do for some days previous to the operation. I found the pulse 112; temperature, 101½° F.; respirations, 20, and the entire body warm. She remained in about this condition until the evening of the third day, when she was seized with a violent chill, which lasted for nearly an hour. I was at once sent for, and on arriving at the house found my patient delirious; temperature, 105½° F.; respirations, 33; pulse, 157. I at once removed the drainage-tube, and on examination found the lower end plugged up with thick pus. This condition of the tube, together with the low condition of the patient, convinced me that I had pus within the abdomen to deal with. Consequently I reopened the wound and again flooded the cavity with warm water, afterward closing the wound with adhesive plaster. There came away at this time at least one pint of thick, creamy pus. The intestines were everywhere matted together, and had to be separated with my fingers. I again ordered the injection of whiskey and milk to be given every three hours during the night. Calling again early the next morning, I learned that the patient had slept quite well during the night. Pulse, 105; temperature, 101½° F.; respirations, 20; skin moist and the entire body warm. From this on she gradually improved, and at the expiration of five weeks from the time of the operation she had so far recovered as to be able to assume the cares and duties of her household.

A CASE OF PNEUMONIA.

By O. H. MERRILL, M.D.,

CORINNA, ME.

G. W. N——, male, aged forty-one, a member of a highly neurotic family, had always been well with the exception of slight rheumatism. On January 3, 1890, he had a severe chill followed by all the other usual symptoms of pneumonia. It was limited to the inferior lobe of the right lung. The disease pursued an ordinary course, and terminated by crisis on the fifth day.

Pulse, temperature, and respiration became nearly normal and remained so for two days. January 10th there was, however, a sudden change for the worse, and on examination it was found that the pneumonic process had invaded the middle lobe of the same lung. The severity of the symptoms steadily increased for the next seven days, till on January 17th the condition of the patient was as follows: pulse, 140; temperature, 105°; respirations, 54; tongue very dry, and uncontrollable delirium. Antipyretics, hypnotics, and stimulants, in as large doses as seemed safe, did not materially improve his condition; in fact they produced very little effect of any kind. January 18th his condition was the same, except that the raging madness had given place to moderate stupor, which continued for the next two weeks. At that time subsultus tendinum and carphology were prominent symptoms. He also passed his urine and fæces into the bed and swallowed with difficulty. It was supposed that death would shortly occur. Nevertheless, by the very free use of hypodermic injections of digitalis, caffein, and brandy the action of the heart was somewhat improved, and by January 19th the pulse was 130, temperature 104° F., and respiration 40. No perceptible change occurred for the next three days, except that on each night, about twelve o'clock, he would appear worse and seem about to die. This condition was combated on each occasion by the rather free administration of brandy. January 23d his pulse fell to 125, and his temperature to 103° F. From that date the pulse-rate decreased from one to five beats per day, and the temperature about half a degree in the same time, till on February 5th the pulse was 96, temperature and respiration normal. The violence of the symptoms, the extreme depression, which was maintained for many days during which life hung by the merest thread, the pro longed course of the disease, and the method of recovery, serve to give interest to the case.

A CASE OF PLACENTA PRÆVIA CENTRALIS.

By FRANK WARNER, M.D.,

COLUMBUS, O.

On November 30, 1888, I was summoned to see a woman, who was eight and one-half months pregnant, for the relief of a violent hemorrhage which had begun a short time before. The diagnosis rested between accidental hemorrhage and placenta prævia. Examination revealed a thick, boggy mass occupying a part of the cervical canal, and from the os a large quantity of blood was pouring forth. The hemorrhage was controlled by a tampon. The following morning I removed the tampon; and again making an examination found the placenta extending almost to the os externum. On inquiry, I learned that there had been frequent slight hemorrhages for six weeks previous. The patient was quite anæmic and feeble, with a weakened pulse. To allow this condition to continue longer meant more hemorrhages, and that too from a patient who could ill afford to lose more blood, and it was decided to bring on labor.

The cervix was dilatable, and my plan was to introduce a Barnes dilator and, after a sufficient opening was secured, to tear away the placenta and turn.

In this I was overruled by my *confrères*, who thought the better plan was to bring on labor by rupture of the bag of waters, afterward tamponing the vagina to restrain hemorrhage while the cervix was dilating, and to trust to the head coming down to stop the rush of blood.

This proposition was acceded to, and the bag of waters ruptured. After a very considerable amount of water had drained away, tamponing was resorted to, for hemorrhage had again set in. In one hour labor pains began. The tampon was left in for five hours. The labor pains had now become quite powerful, and in examining the tampon, I found that during each pain it was firmly pressed down upon the perinæum, but no blood escaped.

The tampon was removed to see what progress had been made. A pain came on, and as soon as the pain was over severe hemorrhage took place. The cervix

was found dilated sufficient to admit of the introduction of a hand. Occupying the dilated cervix was found, not the head of the fœtus, but one mass of bleeding placenta.

It was now plain that a change of tactics was urgently demanded; so, placing my patient under the influence of chloroform, I introduced my right hand into the vagina and tore away all that part of the placenta occupying the left side of the cervix and body of the uterus, quickly introduced the hand into the uterus, found a foot and brought it down, aiding the turning process by manipulation of the left hand over the abdomen. This turning process completed, the hemorrhage ceased. The delivery of the fœtus now occupied about half an hour.

After the child's birth it was found to be a female, well developed and well nourished, but it was quite feeble. The mother and child were left that afternoon doing well, but in the course of the night a severe post-partum hemorrhage set in which came near ending the woman's life. I was summoned at once, and succeeded in stopping the hemorrhage by kneading the uterus and the use of hot-water vaginal injections, together with additional doses of ergot, for she had already taken several doses during the course of the evening, in anticipation of this hemorrhage, which is such a frequent sequel of placenta praevia. From this date on, nothing of special importance developed; convalescence was tedious, the patient remaining in bed four weeks, but finally both mother and child made a perfect recovery.

POISONING WITH ANTIPYRINE.

By E. W. YOUNG, M.D.,
NEW SHARON, ME.

G. D——, aged forty-three, male, three weeks convalescent from neuralgia of the bowels, came into my office, complaining of a slight attack of sick headache. I administered at nine A.M. about six grains of antipyrine, dissolved in water, with one fluid drachm of whiskey. In three minutes after taking the mixture the patient spoke of a peculiar sensation upon each side of the fauces. In ten minutes he left my office to go to his business. Unpleasant symptoms, such as a tumor-like sensation over the notch of the sternum, accompanied with slight dyspnœa, occurring soon after leaving me, he returned after being absent from the office fifteen or twenty minutes, considerably alarmed and with appearance of much suffering. He complained of severe pains in the shoulders, extending up along the side of the neck and down the arms, in the groins, extending down the inner surface of the thighs, and in the mediastinal region. He was also troubled with vertigo, dimness of vision, and nausea, though he did not vomit. Concluding that the whole quantity taken had been at once absorbed into the circulation, I immediately began the use of cardiac stimulants and anodynes, through the stomach. The pulse was increased in frequency and somewhat weak, though regular in rhythm, the highest rate being reached after one hour, 108 per minute, and continuing such for two or three hours.

Within fifteen minutes after returning to me the pain became less severe, when he then began to itch intensely, first over the region of the back but soon spreading to all parts of the body, and after a very short time an eruption, identical with that of urticaria, covered nearly the whole surface, continuing more or less severe for three hours, then subsiding entirely. The pain last to be dispelled was that in the neighborhood of the stomach and mediastinal region. Toward 4 P.M. the patient expressed himself as feeling "all right" again and so continued.

I think it worth while to record these cases, in order to determine for or against the use of this remedy. The most significant point in this case is the smallness of the dose administered to a robust adult, as compared with the average dose. The severe pains are a feature of the case, also, that I have never seen mentioned in any of the reported cases that have come to my knowledge.

FATAL PODOPHYLLIN POISONING.

By W. H. DUDLEY, M.D.,
NEWPORT, N. Y.

I was called to see Mrs. O——, aged sixty, at 1 A.M., September 11, 1889, and found her in the following condition: Face, feet, and hands quite cool; cold perspiration standing on face; pulse, 60, quite weak and thready; respirations sighing, and speaks with difficulty. Says she took some mandrake the evening before, and soon afterward (about 10 P.M.) commenced vomiting and purging which continued to the present. Both vomited matter and stools contained bile. Two hours later the vomiting and purging had ceased, the pulse rose to 70 per minute, the hands and feet getting warm, respirations were natural, and the patient expressed herself as being comparatively comfortable. About seven o'clock in the morning the patient felt so far recovered that she arose and dressed, but soon lay down, feeling quite depressed. Her mind now showed aberration, and memory of past events defective. Seen at 3 P.M.: Primary symptoms of depression returned, but no purging or vomiting.

At 9 P.M. of the same day (about twenty-four hours after taking the podophyllin) the patient was comatose; pulse, 100 to the minute, full, soft, and compressible; temperature, 100+° F.; pupils slightly contracted; respiration, 38. The hand applied to the surface would suggest a higher temperature than is shown by the thermometer.

From this time till 4 A.M. of the morning of the 14th there was a gradual decline. Occasionally she would arouse sufficiently to take food and remedies, but was for the most part comatose. The urine had to be drawn, and was found to be smoky in color; specific gravity, 1.020, acid; albumin one-eighth volume after standing; microscope showed large quantities of blood-cells, but no casts were discovered. In this case there was an error in the patient's dose. She supposed she was taking mandrake, while she took its resinoid, podophyllin. The quantity taken, as shown by the patient before her mind became clouded, was found to weigh about five grains. In this case the treatment consisted of, at first, morphia, one-eighth grain, followed by small quantities of whiskey; later, of food and stimulants, as it was possible to exhibit them.

The primary symptoms of poisoning were removed rather promptly when the condition of the patient promised recovery, but those developing later showed an unrecorded secondary action which would suggest that the liver had been stimulated to the production of a large amount of cholic, choleic, taurocholic, or glycocholic acid, the effect of which was to bring about a condition similar to that of cholæmia, minus the jaundice, a symptom absent throughout the duration of the illness—about eighty hours. No post-mortem was obtained. It should be stated that the husband of the patient took a similar dose of the same drug, and suffered primarily in about the same manner as his wife, though in a minor degree, which was followed by a depressed condition for two or three weeks, but finally recovered, and has since enjoyed his usual health.

PIGMENTATION OF THE SKIN AFTER THE INTERNAL USE OF ARSENIC.

By L. WEHLAU, M.D.,
SCRANTON, PA.

In the *Allgemeine medizinische Centralzeitung*, Berlin, September 11, 1889, there are reports of two cases of pigmentation of the skin after the use of arsenic, published by Dr. E. Haffner, in connection with a similar case presented by Dr. William Leszynsky at the Academy of Medicine, New York, April, 1889. In view of the scarcity of similar cases, I may be pardoned for relating the following one, which has additional interest from the fact that pigmentation took place in a very short time, and after very small doses of arsenic.

With Dr. Haffner, bronzing of the skin appeared in one case a year and a half after the use of five to eight drops of Fowler's solution three times a day. In the second case, four months after the use of eight drops three times a day.

On April 25, 1889, I was called to see Mrs. M——, nationality German, aged thirty. Married eleven years. Number of children four, the oldest ten, the youngest six years of age. She had always been a very strong and healthy woman up to two years ago. Since then she has suffered from loss of appetite, strength, and weight. I found her in bed on account of her weakness. Examination of the chest and abdomen did not furnish any clue to her condition. In regard to pelvic symptoms, she has suffered for the last two years from leucorrhœa. The formerly normal menses had become very light and scanty. There was some backache. Examination revealed a tear of the perineum, with slight recto- and cystocele, an endocervicitis as the result of laceration, the uterus a little lower down than usual, fundus movable anteriorly; tubes thickened, ovaries prolapsed, no tenderness on pressure.

For the first five weeks Mrs. M—— was treated with iron, quinine, etc., hot douches, local applications to endocervix, and the patient grew worse continually. At this stage Dr. Guenster, who kindly saw her with me, pointed out a slight enlargement of the spleen, and the possibility of leukæmia suggested itself, but the result of a microscopical examination of the blood being negative, we made our diagnosis of anæmia progressiva perniciosa, and prescribed Fowler's solution, five drops three times a day. A few days afterward Mrs. M—— was taken sick with a very severe peri- and para-metritis, resulting in suppuration and perforation into the rectum, and into the vagina fourteen days later. Soon after the discharge of pus, and when her stomach, which had been upset, got into a better condition, I put her on arsenic again, five drops three times a day, and from this time on a wonderful improvement was noticeable. She gained every day, and four weeks after the perforation of the pelvic abscesses, she was able to walk through her garden without help; but after having taken the Fowler's solution for three weeks, the highest dose having been seven drops t.i.d., she developed a discoloration of the skin that reminded one of a far-advanced case of Addison's disease; the pigmentation being most pronounced on the abdomen, thighs, face, and arms.

Having seen Dr. Leszynsky's case at his clinic in Demilt Dispensary, I stopped the Fowler's solution, to resume its use three weeks later in four-drop doses. The greatest intensity of pigmentation lasted about ten days, and then, just as in Dr. Leszynsky's case, with the development of a fine, whitish desquamation, the skin returned to its usual color in about six weeks time, although the Fowler's solution was continued in four-drop doses during the latter part of this period.

Mrs. M—— is at present entirely well. The only thing remaining of her pelvic trouble is a left lateral uterine version, the womb being slightly movable. She experiences no trouble from this condition. I may state in conclusion, that in this case, as in that of Dr. Leszynsky's, the patient was a brunette.

A SUBSTITUTE FOR THE PLASTER DRESSING.

Dr. George C. Brown, of Gainesville, N. Y., writes: "I desire to call the attention of the profession to a permanent dressing, which, so far as I know, is new, and which I have used with benefit in place of the more or less clumsy plaster dressing.

"The mode of construction is as follows: When the injury is between the foot and knee, a well-fitting stocking is the most convenient groundwork. At other positions portions of the underwear may be made to serve a good purpose, the essential point being to have the groundwork fit without wrinkling. To this surface apply grocer's coarse sugar paper, cut in strips of suitable width—from three-quarters to one inch being the most convenient width for the limbs—with a good quality of furniture glue. After the desired thickness has been reached it should be left several hours to harden, when it can be removed the same as the plaster dressing, by slitting from one end to the other, when it can be sprung off. I then apply more strips of paper wherever needed to strengthen the splint, trim out from half an inch to one inch on the cut edges, so as to insure constant apposition in case of reduced swelling. Then cover the whole with a cloth covering similar to the inside, glue it thoroughly to the surface, and bind all raw edges with bandaging muslin. After the glue is thoroughly dry, to make a handsomer finish, I usually apply a coat of carriage paint and varnish, and, finally, fasten a row of shoe lacers on either side of the cut edges for lacing the splint on to the injured part.

"The advantages I have found in this dressing over plaster are: 1, It is lighter and more easily applied; 2, it is more durable, lasting with careful use from one to two years; 3, it is readily removed and re-applied; 4, it is cheaper, and can be applied anywhere plaster can, and may be substituted for the leather jacket, which is usually too expensive for poor patients to purchase.

"I frequently render it porous by punching holes through the splint at intervals of an inch or two, making it more comfortable during hot weather."

Progress of Medical Science.

The Immediate and Remote Results of Operations for Local Tuberculosis.—M. Léon Petit has summarized the facts brought out by a recent discussion on this topic. Surgical tubercular lesions—caries of bone, articular fungosities, scrofulous adenitis, spina ventosa, cutaneous ulcerations, etc.—are due to the presence of tubercular elements, and contain the bacillus of Koch. For some time—and in particular since the nature of the tubercular lesion has been known—there has been a constant strife between operative medicine and therapeutical medicine as to the treatment of the local lesions. To solve the question we want facts, and not reasoning. We must classify the facts collected into numerous divisions, and we must follow the cases for a number of years. It is only thus we can appreciate the immediate and remote effects of operation. The difficulty arises in our being often unable to follow the after-history, as the patients are lost sight of. The immediate results may be good, mediocre, null, or bad. It has been said that with antiseptic dressing there are no complications with operations on the tuberculous; that numerous facts testify that the operation may give start to lesions and to tubercular lesions, in organs remote from the operative zone—lungs, meninges, liver, kidneys—and provoke the rapid development of these lesions. Many cases of syncope—mortal or not—met with during or after anæsthesia, are due to the existence of miliary tubercle of the lungs, which is often impossible to discover by auscultation, and only reveals itself by *post-mortem*. Mollière, of Lyons, advises, when there is phthisis in the third degree, rapid operation, in order that the quantity of ether or chloroform may be reduced to a minimum. The traumatic accidents consecutive to operations on the tuberculous depend most frequently on infection produced by the presence of common pyogenic microbes in the wounds of these subjects. In other words, according to Mollière, the results of operations on the tuberculosis may be benign, provided we can avoid traumatic fever. The remote results may be good, mediocre, or bad; good, when to operative success is added therapeutical success; mediocre, when there is operative success, but the tuberculosis after a time again appears, ending in death; bad, when there is neither operative success nor therapeutical success.

In the classification proposed by M. Verneuil, we must

take account of the circumstances which depend on the operation; the lesions of the patient and his environment. The operative results would be different, according to the general treatment followed by the patient during and after operation, and will depend upon whether a cutting instrument, cautery, or injections be used; complete or incomplete extirpations have also their effect. The results, according to Boeckel, Verneuil, and Ollier, are better in acquired than hereditary tuberculosis. M. Jules Boeckel (Strasburg) states that out of 204 cases of amputations and resections performed for local tuberculosis, the mortality of the amputations has been double that of the resections. The results differ again, according to the seat and extent of the lesions. The region invaded is of no great importance. The gravity of the operation, too, is different, according as the tuberculosis has its seat in the pleura, peritoneum, or finger, in the hand or foot, in the ganglions or the bones. Resections of the neck give excellent results, because the patients are not obliged to remain in hospital. Two or three days after operation—thanks to antisepsis and immobilization—they may be sent out to the pure air. The results are inferior in the case of the foot, because the patients are obliged to remain in bed for many months. They live in a bacillary atmosphere, and if not already infected they become so, according to Ollier, by absorbing the bacilli in the air they respire and by the food they take. In tuberculosis of the ganglions, generalization may be rapid after extirpation by exciting the neighboring ones, which often appear healthy because they are small, but microscopical examination often proves that they contain bacillary nuclei. Ablation of the ganglions is then a bad operation, which should be interstitial injections of anti-bacillary solutions. In articular tuberculosis resection only allows complete ablation of the lesions. The immediate results are yet more favorable than in extirpation of the ganglia. But amputation is preferable to resection. Operations on the bones give better results still. In certain osteo-arthrites, the bones are diseased through the whole extent of the marrow. There are tubercular nuclei, without appreciable symptom, on the side of the periosteum, or of the soft parts. Previous trephining of the bone will establish the diagnosis. Partial amputations leave interminable fistulæ, and when these lesions are in certain situations, as the knee, exarticulation of the hip is preferable. In osseous tuberculosis we must distinguish two forms—the one circumscribed, the other invading. The first may be cured by local action; the second yields to amputation of the member when the means employed to arrest its march have failed. In infancy, intra-articular cauterization gives the best results. In the adult, thirty to forty years of age, resection is indicated; but when the lesions are extensive, and we cannot remove all by resection, Ollier counsels amputation Leconte lays down that in tuberculosis of the limbs, radical operations are preferable to sparing ones. In tuberculosis of the bladder, when palliative treatment by intra-vesical injection and internal medicine are powerless, we must act direct upon the lesion. Practise hypogastric section, and by raclage remove the diseased part of the mucus. In four cases Professor Guyon has obtained temporary recovery, with relief of suffering. Guyon and Le Dentu recommend permanent drainage, and prefer the hypogastric operation to the perineal one. At the end of a certain time the drainage-tubes can be replaced by a special apparatus adapted for hypogastric fistula. The results obtained by the operation for tuberculosis of the bladder depend above all on the state of the kidneys and the prostate. The kidneys are always attacked before the prostate, and the operation can only be put off by palliative treatment. Tuberculosis of the kidney may be cured by the total extirpation of that organ; that of the prostate by curage; that of the eye by total ablation; that of the uterus by raclage and cauterization; that of the ovaries and the tubes by a radical operation. Operative interference, then, in local tuberculosis gives excellent results, as it removes the causes of infection, and prevents other parts of the body from being infected.

Adults require a little more radical operation than children. The statistics of children cannot be applied to adults. In the infant we can cure almost all tuberculous affections without having recourse to the bistoury. M. Leconte goes much further, for he thinks even in adults we may obtain the cure of local tuberculosis by general treatment and interstitial injections. In subjects attacked with pulmonary phthisis, with local tuberculosis, the radical ablation of the latter may be followed by immediate reunion, as in healthy subjects, and by considerable amelioration of the pulmonary lesions.

In conclusion, thanks to antiseptic treatment, operations on the tuberculous are indicated in every case of local lesion, and the results must not be calculated from the pre-antiseptic day, as recent results are much more encouraging.—*The Provincial Medical Journal.*

The Use of Strophanthus in Children.—Demme, having conducted a pharmacological investigation of tincture of strophanthus, and arrived at the same conclusions as other authors (Langaard, Blumenau, etc.), has carefully studied the employment of the preparation in children. Twenty-one cases are recorded, namely, seven of mitral disease without compensation, five of scarlatinal nephritis, three of pleurisy with exudation, and two each of bronchial asthma, tuberculous phthisis, and pertussis. Briefly, Demme came to the following conclusions: 1. Strophanthus is useful in childhood, but can only be administered from the fifth year onward. Dyspeptic troubles are only met with exceptionally. Larger doses than three drops four or five times a day are to be avoided. 2. The principal action is to increase the urinary secretion, brought about through the increase of blood-pressure. Compensation of valvular incompetence becomes more assured than is ever the case with digitalis. Where the blood-pressure is normal or already raised, the action of strophanthus remains in abeyance. 3. The second effect of strophauthus is the removal of dyspnœa, especially in cases of nephritis running a chronic course, bronchial asthma, and pertussis. Here also increase of blood-pressure comes probably into play. 4. Where speedy compensation of valvular defect, prompt increase of blood-pressure, with adequate slowing of the pulse-frequency, and increase of the urinary secretion are desired, digitalis is to be preferred to strophanthus, while the latter is indicated where digitalis has lost its effect and in urgent dyspnœa. In such cases Demme recommends a combination of the two remedies. 5. Cumulative action or loss of power on long use Demme failed to observe.—*Centralblatt für klinische Medizin.*

A Fatal Case of Unsuspected General Osteomyelitis.—One of the advantages which the hospital physician has over the general practitioner is that he is able to investigate after death the obscure disease-processes which have baffled his comprehension during life. This is especially true of those rare cases in which chronic degeneration of parts difficult to reach occurs without palpable alteration in the form or density of the organs affected. A case in point, which would in private practice have been classed under the title "pernicious anæmia" (one of the little shrouds under which we inter obscure cases), is related by Dr. Knott in the *British Medical Journal*, February 1, 1890. The patient, a well-knit seaman, twenty-four years of age, who had at different times suffered from pleurisy, remittent fever, and purpura, with dyspepsia, but who had enjoyed fair health for the last three years, complained of slight, ill-defined pains about the chest, epigastrium, and loins, saying that he had been ailing for three weeks, and had lost flesh and strength. Upon careful examination nothing abnormal could be detected in regard to temperature, appetite, tongue, bodily functions, etc.—the urine being only slightly phosphatic—but as he looked anxious and ill, he was put to bed and

dieted. Next day there was tenderness in epigastrium and hepatic region, without enlargement of liver, and weakness of respiratory murmur on right side. The sternal half of the right clavicle was found to be enlarged, in consequence, apparently, of a fall some years before. The heart-sounds were normal. During the next ten days he began to lose appetite, and to vomit after meals —the vomiting becoming gradually more frequent, with ejection of a bitter liquid of the color of yolk of egg or green. There was no rise in temperature, and no localized tenderness in any of the bones. The patient was removed to hospital, and died forty four days after admission. In hospital he became very weak and thin. There was much tenderness about the chest-walls and some swelling over the sternum for a few days. Epistaxis occurred several times, the bowels became very costive, appetite failed completely. Death set in by exhaustion. The post-mortem examination seemed at first to throw very little light on the nature of the disease which had, during life, sorely puzzled the members of the hospital staff. The body was greatly emaciated; the skin was of a white, waxy color. The organs of the abdomen were very pale and bloodless; all the fat had been absorbed; the liver and kidneys were healthy, as also the pancreas and spleen. The stomach presented the cicatrix of a healed ulcer with a hard, gristly base; the glands along the lesser curvature being enlarged and gristly. The blood-vessels were healthy, but contained only pink serum. The lungs were bloodless but healthy, with old pleuritic adhesions at the right apex. The heart and great vessels were normal, but contained only serum. So far nothing had been found to explain the great anæmia-changes which were everywhere apparent. The case might have remained a mystery had not one of the ribs been accidentally divided at a bony part in the removal of the sternum. Though apparently healthy from without, it was found to be quite soft, its cancellous tissue having broken down and having been replaced by a pink creamy matter. Other ribs were in the same condition, as well as the sternum, the clavicles, and the femora. Dr. Knott thinks that this general chronic osteomyelitis was the initial disease, and that the extreme anæmia was the result of this hidden cause. He suggests that, if this interpretation is correct, it goes to strengthen the theory that the red corpuscles of the blood are formed originally, or in some way matured, in the marrow and cancellous tissue of the bones.

Local and General Manifestations of Infection.—M. Bouchard, at the Académie des Sciences, recently presented a paper on the part played by local injury in infective diseases. The more inclined the organism was, he said, to a general morbid condition, the less there was of local injury. For instance, anthrax produces a malignant pustule in man; but in a rabbit, where the local lesion is perfectly trifling, it produces acute general infection. The relation was analogous to that between fœtal and inoculated small pox, between inherited and acquired syphilis. It might be said that, as a rule, infection by a limited lesion is less serious than infection by the blood. If there is complete systemic infection the local lesion may be completely lost. M. Bouchard, with the help of M. Charrin, had made some inquiries on the method of production of the local injury. Taking the *Bacillus pyocyaneus* as an example, he thought he could show the methods by which the local injury protected the animal from general infection; they were not unlike what M. Metchnikoff had described. The organism had several ways of overpowering the microbe. The liquid constituents of the body might be unfavorable to its growth; if there were much local inflammation about the place of inoculation there would be more diapedesis of leucocytes, and these leucocytes were found to be very destructive of microbes; or lastly, it might be that the microbes during their short life in their limited locality might secrete something that vaccinated the body and helped its resistance to the further spread of the microbe. MM. Charrin and Noges had made some more, particular observations on this last point. They had found the fatal action of the serum of the blood on many microbes. The *Bacillus pyocyaneus* was the one which would most resist this action of the serum. It could grow fairly well in the serum of healthy rabbits, a little in the serum of those that have been vaccinated against the disease, and not at all in those which are having the disease. But still this fatal power of the serum is not sufficient to give full immunity to those which possess it; complete immunity is a resultant of this and other forces.—*The Practitioner.*

Action of Boric Acid on the Kidneys.—Dr. Jacob Plaut has made a number of experiments as to the danger of boric acid when employed as an antiseptic, and has published his results in an inaugural thesis presented to the University of Wurzburg, 1889. These experiments appear to show that the constant employment of boric acid, when brought into the peritoneal cavity or under the skin, results in many cases in rapid death if the quantities dissolved are large, or, if small, the final fatal effect is preceded by acute parenchymatous nephritis. The author does not seem to have established that the death of the various animals poisoned by boric acid was attributable to the renal inflammation, but his experiments are sufficient to show that boric acid is by no means the safe antiseptic which it was supposed to be.—*The Therapeutic Gazette.*

Succinate of Iron in Gall-Stones.—Succinate of iron is an amorphous reddish-brown powder, insoluble in water and alcohol. According to Dr. Buckler, in combination with chloroform it is very efficacious in gall-stones. The chloroform is given in ten-drop doses from four to six times a day, and the succinate of iron in teaspoonful doses after each meal. Its use is to be continued for months, until complete solution of the stones takes place and the tendency to their formation is overcome.—*Medical Press.*

Treatment of Puerperal Eclampsia.—Voit's article on this subject in *Volkmann's Sammlung Kl. Vork*, 304, is likely to exercise a good deal of influence on the treatment of this affection in Germany. He strongly recommends narcotism by means of opium or morphia as the sheet-anchor, or chloral hydrate may be employed, but it possesses no advantages over the first named. The first thing is to give a dose of 0.03 to 0.04 gramme of morphia, and then smaller doses to keep up deep narcosis. It is an advantage to narcotize a patient quickly, and then chloroform may be given first and morphia afterward. Diaphoresis is a valuable means, which may be protracted by warm baths and enveloping in moist, hot clothes, without any fear of hemorrhage. The narcosis is not interfered with by these, and hypersecretion of the respiratory tract is not to be feared, as after the administration of pilocarpine. The best practitioners have a decided aversion for pilocarpine nowadays. The labor must also be expedited as much as possible. If the os utero is closed, the membranes may be ruptured or a bougie introduced. He mentions the procedure recommended by Moudot under these circumstances. This gentleman ruptures the membranes by passing a flat, metallic cannula through the cervix, and allows about ten litres of a one per cent. carbolic solution to flow into the uterine cavity under gentle pressure.—*Medical Press.*

"How Do You Do To-day?"—A physician, illustrating the evil custom of talking to an invalid about his pains, says that once he requested a mother to mark a stroke upon a paper each time that she asked a sick daughter how she was. The next day, to her astonishment, she made one hundred and nine strokes. A three months' visit away from home was prescribed.

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THE NATIONAL CONTROL OF OUR QUARANTINE.

THE passage of the National Contagious Diseases bill by Congress marks an era in sanitary legislation which deserves to be noticed. It will be found that this new law may confer extraordinary powers upon the Treasury Department and Marine Hospital Service, powers which Congress has always, heretofore, refused to bestow. In 1796 an attempt was made to enact very much such a law as the present one, but the bill was modified, and finally defeated. Up to 1878 the National Government contented itself with simply aiding the States through its revenue and military officers. Then began the fight of the United States Marine Hospital Service to establish itself as the National Central Bureau for controlling quarantine matters. Its efforts were defeated for a time, and from 1879 to 1883 the National Board of Health exercised very considerable advisory and some executive power over quarantine matters. From various causes, prominent among them being the hostility and ambition of the Marine Hospital Bureau, the National Board failed to secure the confidence and support of Congress, and it lapsed into helplessness from the want of an appropriation. Meanwhile the Marine Hospital Bureau secured the enactment of a law placing an epidemic fund at the disposal of the President in case of need, and providing for its disbursement through the officers of the Marine Hospital Service.

Now comes the law giving to the National Government power to control interstate quarantine, and placing the execution of the law in the hands of the Marine Hospital Service. This service has now gained the two great objects of its ambition, its officers are appointed by the President and confirmed by the Senate, and it is master of the sanitary affairs of the United States. The growth into these proportions of a little bureau in the Treasury Department, intended originally to take care of the sick and disburse the sick-dues of our merchant marine, is a highly interesting thing to contemplate. We trust that it will prove itself worthy of the task imposed upon it; and we are wondering if, when the people find out the new powers which our National Government has assumed, it will continue to allow them. For our part, we believe that it is decidedly the most efficient way to administer quarantine. The doctrine of States rights has often been the shibboleth of unreasoning opposition to sound sanitary legislation, and there has undoubtedly been an immense loss of life and property in the past hundred years on account of the hyperæsthesia of States rights politicians.

A SUBJECTIVE SENSATION OF THE MOUTH IN WOMEN.

THE young practitioner, especially if he is of a scientific turn of mind and has spent much time as a resident in a hospital, is apt to feel a profound contempt for the abnormal nervous feelings which figure so largely in the complainings of his female patients. If he is to be a successful physician, however, he must early learn that these sensations are not to be despised nor disregarded, and must prepare himself for giving patient attention to the tedious accounts of ever varying "aches" and "feelings" poured into his wearied ears, arming himself with a multitude of pharmaceutical missiles of reputed utility. Fortunately for him his success depends not so much on the treatment of each individual symptom as it arises, as on the bracing up of the whole system, and especially the thorough evacuation and cleansing of the digestive canal.

In a few isolated cases a localized disorder of sensation persists in spite of all treatment, indicating probably an anatomical lesion of certain nerve centres in the brain or spinal cord.

In the *Lancet*, January 25, 1890, Dr. Hadden reports four such cases, in all of which there was a sensation of intense, unbearable burning of the tongue, which extended sometimes to the lips and roof of the mouth.

The first patient, a lady of seventy-four years, suffered from aortic regurgitation with irregularity of the heart and dyspnœa. This serious affection was, however, as nothing compared with the misery which she experienced from an almost constant burning and scalding sensation about the tip of the tongue and lips, which made her life almost intolerable and interfered seriously with sleep. No local disorder of the parts could be seen. She was nervous and excitable, and flushed frequently without apparent cause. Cocaine tablets of one-sixth of a grain, and afterward of one-third of a grain, gave her a little relief. Belladonna, ten minims of the tincture, t.i.d., was without influence. The sensations persisted with but little change until her death a few months later.

The second patient, seen but once, was a married woman, aged thirty-five, who had a small epulis. Her sensations were similar to those of the first patient.

The third patient, a married lady of seventy five years, who had been reduced to poverty, had passed the menopause without trouble, and gave a family history free from nervous disorders. She herself, however, had for many years suffered from nettlerash with nocturnal itching; and she was emotional and nervous, blushing readily. Twelve years before she began to suffer from a burning sensation in the middle of the dorsum of the tongue, which had since increased in intensity, involving during the last five years the gums and roof of the mouth. Since its first appearance it had never left her for an hour. After the gums became involved the teeth turned black and decayed. The mouth was of normal temperature. The tongue was clean, moist, slightly fissured, with prominent papillæ. There were some papilla-like outgrowths on the gums. When touched with the finger, the

tongue and gums seemed to burn. There was a constant bitter taste in the mouth. She could detect sugar and salts, but meats tasted bitter. The burning sensation in the mouth prevented sound sleep, day or night, and had been, of late years, so much increased by solid food that she limited herself to liquid diet.

She was still, after six months, under treatment; many remedies, local and general, such as glycerine of borax, boro-glycerine, antipyrin, jaborandi, bromide and iodide of potassium, belladonna, and chlorate of potash, having been tried without avail. The discomfort during the night was somewhat lessened by constant sipping of milk-and-water.

The fourth patient was a florid, excitable married woman of fifty-three, with no family history of neurosis. After passing the menopause at forty-five she began to suffer with flushing of the face, which still persisted. During the past year the tip of the tongue began to tingle. After a sudden mental shock this tingling gave way to a burning in the tongue and mouth, appearing at first at bed-time, but subsequently becoming constant. It was relieved by food and by water and cooling drinks. The taste of sugar and salt could be discerned, but meats were insipid. She slept badly. The mouth was normal in appearance and temperature, and sensation to the touch was natural. All of the teeth had been extracted in the hope of relieving the trouble. No treatment had been of any use, but Dr. Hadden intended soon to try the electric current.

A REVIEW OF THE LITERATURE OF INFLUENZA.

A REVIEWER in Schmidt's *Jahrbücher* has collected a list of sixty-one publications made upon the subject of influenza since the epidemic appeared last October. These communications include studies of the disease in all its phases. Six are devoted to its epidemiology, and discuss its origin and history. Clemon thinks the disease began in Siberia, appearing at Tomsk October 15, 1889; but Heyfelder asserts that it existed in Russia in the summer of 1889. In the early part of December it appeared in Berlin, Paris, and Austria, and in the latter part of December in London and New York. It reached Italy, Greece, and North Africa about the same time, or a little later.

Some twenty communications are devoted to the symptomatology of the influenza, four to its appearance in animals, and ten to the complications of the disease.

Thirteen writers discuss the bacteriology of influenza, but the reviewer has evidently overlooked American studies on this subject. Our readers are already familiar with the results of this work through the contributions of Prudden and others in our columns.

The subject of prophylaxis and therapy has not seemed an attractive one, for we find only five articles upon it. These are devoted to showing that quinine is prophylactic, and calomel more or less abortive or curative in its action.

COSMETICS FOR THE PHYSICIAN.

THE secrets of the toilet, the arts by which lovely woman hides incipient corrugations, effaces blemishes, and softens and beautifies her cutaneous apparatus and its appendages generally, are rarely investigated by the physician. He contents himself with removing some particularly obtrusive mark, pulling out superfluous hairs, or trying, with spirits and Spanish flies, to fasten in the too deciduous hair. Dr. H. Paschkis, of Vienna, however, has attempted to inaugurate a new era in this line, and has written a book, "Kosmetik für Aertze," which is intended to enable the physician to add to the æsthetic enjoyment, as well as physical welfare of humanity. Paschkis's book is said by a reviewer in the *Deutsche Medizinal Zeitung* to be a thoroughly scientific one. Its formulæ are based upon dermatological knowledge and pharmaceutical experience. As illustrations we are given four formulæ for that popular domestic article "cold cream."

One of them is as follows:

℞. Lanolin 10.0
Boracis 1.0
Aqua rosmarin 100.0
M. Sig.: Lanolin-milk

A formula for seborrhœa is the following:

℞. Kali carbonat 10.0
Aqua destillat 100.0
Olei æth. cinamom ..... gtt. 2.0
Olei æth. rosmarin ..... gt. 1.0
M.

For warts our scientific book of beauty prescribes:

℞. Acid. salicylicum 5.0
Collodii 20.0
M.

For sweating feet, five to ten per cent. solutions of chromic acid are recommended.

For dandruff and baldness there are, of course, numerous prescriptions; but, we regret to say, no specific is announced. For a simple wash, as preventive of dandruff, we find:

℞ Kali carbonat 2.00
Aquæ 100.00

The formula for Hebra's dandruff water is also given, viz.:

℞. Spts. æther 100.0
Tinct. benzoin 15.0
M.

Mouth-washes and tooth-powders are given, the author warning his readers especially against the use of salicylic acid for these purposes.

We have not space to describe the merits of Dr. Paschkis's work in further detail. But it is evident that, equipped therewith, the physician can enter on even terms the contest against the balms of Récamier, the secret washes of Lola Montez, and the roborant lotions of the Sutherland and other sisters.

TUBERCULOSIS AND MILK.

A BOSTON gentleman, Mr. Francis Blake, has created quite a stir by his account of the discovery of tuberculosis in the herd of cows which he owned, and which he had believed to be particularly healthy animals. Out of ten cows, six were found to be tuberculous, and were killed. Milk from the tuberculous cows was tested bacteriologically, and found to be free from bacilli. The conclusion reached was that the bacteriological test of milk was not a sure one. This is very true; it is well known that tuberculous cows do not always have bacilli in their milk, and that the milk of such cows may, and as a rule is, perfectly harmless. Occasionally, however,

bacilli appear in it; and still more rarely, these bacilli infect those who drink it. The milk of tuberculous cows is not a virulent poison, it may even be a fairly healthful food; but it always is a possible source of danger, and upon this ground measures to stamp out bovine tuberculosis, and to sterilize milk before it is stamped out, are to be recommended.

ARE MUTILATIONS INHERITED?

The Lancet, in a recent issue, discusses this question and refers to some recent studies by Professor Weismann on the subject. The distinguished professor cut off the tails of nine hundred and one white mice of successive generations, but in no case was a white mouse born without a full-sized 10.5 mm. tail. It has always been something of a puzzle that the Jews should, after thousands of years of circumcision, still bear male infants with long prepuces. Darwin refers to the fact, as noted by Godron, that different races of man have from time immemorial knocked out their upper incisors, cut off joints of their fingers, made holes of immense size through the lobes of their ears or through their nostrils, tattooed themselves, made deep gashes in various parts of their bodies, and yet that there is no reason to suppose that these mutilations have ever been inherited.

It must be conceded that, in the higher mammals at least, mutilations are rarely, if ever, transmitted.

News of the Week.

Not the Best Way to Collect Fees.—A physician practising in Carlisle, Pa., has been arrested there on a charge of having violated the United States postal laws. About March 1st, a man in New Haven received a letter on which appeared the words: "Dead Beat Agency, Carlisle, Pa." It contained a notification that the recipient owed the doctor $36.20. The letter was given to the postmaster, and by him referred to the authorities at Washington, who ordered the too urgent creditor's arrest.

The Louisiana State Board of Health.—Drs. Henry Bezou and S. R. Olliphant, and Messrs. Charles Holloway and Thomas A. Clayton, have been appointed by Governor Nicholls members of the Louisiana Board of Health.

The Quincy (Mass.) City Hospital.—Mr. William B. Rice, a Boston merchant residing in Quincy, has just presented a hospital to the latter city. According to the provisions of the bequest, the medical board is to be composed of three regular physicians and one member of the Massachusetts Homœopathic Medical Society.

An Office Thief with a Big Business.—A woman who made a specialty of plundering physicians' offices was recently arrested in Brooklyn. So many pawn-tickets were found in her possession, all representing the fruit of her stealings, that it was necessary to hire a large express wagon to gather up the redeemed pledges.

Dr. D. Hayes Agnew, of Philadelphia, has been ill, but is now reported to be convalescent.

A Memorial Hospital at Johnstown.—It is proposed to erect a hospital at Johnstown, the cost to be defrayed out of the surplus funds of the flood relief commission. The hospital will stand on a high bluff west of Stony Creek.

Dr. Robert Gibson, of the U. S. Army, stationed at Fort Trumbull, was thrown from his carriage in New London, recently, receiving a severe contusion in the head and breaking two bones of his right arm. The carriage was wrecked.

The Society of the Alumni of Bellevue Hospital.—This society, composed of the attending staff and ex-internes of Bellevue Hospital, celebrated their first annual reunion during the past week with the following programme of the Scientific Meetings: On Tuesday, April 8th, at 8 P.M., at the Mott Memorial Hall, a paper was read on "The Treatment of Simple Fracture of the Patella by Wiring," by Dr. Charles Phelps. It was discussed by Drs. Abbe, Bryant, W. T. Bull, Dennis, Fluhrer, Lange, T. M. Markoe, McBurney, Leale, L. A. Stimson, and Stephen Smith. On Wednesday April 9th, at 11 A.M., a clinic was given at Bellevue Hospital, by Dr. L. A. Sayre. At Mott Memorial Hall, in the afternoon, a paper on the "Ultimate Results of Injuries to the Hip-joint," was read by Dr. Reuben A. Vance, of Cleveland, O. The paper was discussed by Drs. Hartley, L. W. Hubbard, R. H. Sayre, J. McG. Woodbury, and Wyeth. Discussion on "Transient Glycosuria and Delicate Tests for Sugar in the Urine," introduced by Drs. Brandreth Symonds and John Warren; continued by Drs. H. M. Biggs, A. Flint, G. B. Fowler, R. W. Greene, A. Jacobi, E. G. Janeway, W. H. Thomson, and J. W. Roosevelt. On Thursday, April 10th, at 2 P.M., a gynecological clinic was given at Bellevue Hospital by Dr. W. T. Lusk. On Wednesday evening a banquet was given by the society at the Hotel Brunswick. Nearly every one of the one hundred and eighty members was there, while on each side of Dr. Richard Kalish, the President of the society, sat a long line of guests. Dr. Kalish proudly told how the society started off with a surplus of $600 in its treasury. Dr. William H. Draper, in responding to the toast "Old Bellevue," gave many reminiscences of the famous physicians with whom he had labored in the hospital in years past. After Dr. Draper had said a good word for the society, at his request the diners rose and drank a silent toast to the memory of those of Bellevue's physicians who had died in the discharge of their duty since 1847. "The Parson," was the Rev. Dr. R. S. MacArthur's toast, and he accepted the title with a good grace. He had had a good deal to do with doctors, but he was thankful to say that doctors had had very little to do with him. He finished his speech with an appeal for an American university to be established in New York, to be on a plane with the German universities. The other toasts were: "Progressive Medicine," Dr. Alfred L. Loomis; "The Law," Frank Loomis; "Bellevue Hospital in its Relation to Medical Education," Dr. Austin Flint; "The Commissioners of Charities and Correction," President H. H. Porter; "The Patient," Charles B. Alexander; "The Press," Chester S. Lord; "The Trained Nurse," Dr. William M. Polk.

Another University Open to Women.—The University of Basle, the only one in Switzerland which still refused to admit women, has now, in response to an influentially signed petition, thrown open its doors to them.

The West End Medical Society held its third regular meeting on last Saturday evening. This is a new society of the physicians practising on the west side of the Park. Its object is the advancement of medicine and surgery, and the promotion of social intercourse among its members. At the last meeting, Dr. Horner read a paper on "Empyema," and presented a case. The officers of the society are: Dr. W. A. Walker, *President;* Dr. C. B. White, *Vice-President;* and Dr. Richard N. W. K. Horner, *Secretary and Treasurer.* Regular meetings will be held at the members' houses on the first Saturday evening of the month, except during the months of July, August, and September. A paper on some medical or surgical subject will be read at each meeting. The Society has over twenty members.

The Medical Association of Georgia will hold its annual meeting at Brunswick, on Wednesday, Thursday, and Friday, April 16th, 17th, and 18th. According to the published programme, the meeting promises to be a very interesting one. Among the good things promised the members is a clam-bake and oyster-roast on the afternoon of the first day.

The Southwestern Ohio Medical Society.—The semi-annual meeting of this flourishing organization will be held at Springfield, O., on Thursday and Friday, April 17th and 18th.

The South Carolina Medical Association will hold its annual meeting at Laurens, on Wednesday, April 23d.

The Call of the American Committee of the Tenth International Medical Congress.—The Committee of Organization of the Tenth International Medical Congress, R. Virchow, *President;* E. von Bergmann, E. Leyden, W. Waldeyer, *Vice-Presidents;* O. Lassar, *Secretary-General*, have appointed the undersigned members of an American Committee for the purpose of enlisting the sympathy and co-operation of the American profession. We are assured that the medical men of our country will receive a hearty welcome in Berlin. The Congress promises to prove of inestimable value in its educational results, and in securing the ties of international professional brotherhood. It is most important that the American profession should participate both in its labors and its fruits. Delegates of American Medical Societies and Institutions, and individual members of the profession, will be admitted on equal terms. The undersigned, therefore, beg to express their hope that a large number of the distinguished men of our country will appreciate both the honor conferred by this cordial invitation and the opportunity afforded us to fitly represent American medicine. The Congress will be held at Berlin, from the fourth to the ninth of August. The arrangements in regard to a few general meetings and the main scientific work, which is delegated to the sections, are the same as in former sessions. A medico-scientific exhibition, the programme of which was published a few weeks ago, is to form an ingredient part. It is to the latter that the Berlin Committee is very anxious that both the scientific and the secular press should be requested to give the greatest possible publicity. The office of the Secretary-General is Karlstrasse 19, N. W., Berlin, Germany. S. C. Busey, Washington, D. C.; William H. Draper, New York; R. H. Fitz, Boston, Mass.; H. Hun, Albany, N. Y.; A. Jacobi, New York; William T. Lusk, New York; William Osler, Boston, Mass.; William Pepper, Philadelphia, Pa.; J. Peyre Porcher, Charleston, S. C.; J. Stewart, Montreal, Can.

A Mad-House for Royalty.—A London paper states that in the private asylum at Gratz there are now confined Prince Pedro of Saxe-Coburg, Prince Charles of Lichtenstein, and the Duchess of Augustenberg. The Duchess of Alençon was at one time an inmate.

"The Illustrated Medical News," of London, has ceased to appear. A large amount of money was spent in the endeavor to establish it upon a paying basis, but it lived but little over a year.

The Portrait of a Surgeon given to a Church.—The *London Medical Recorder* states that a grateful patient of Professor Billroth's has made a present to a church, in the neighborhood of Vienna, of a portrait of the distinguished surgeon, delineating him as he appears in his operating-room.

Alcoholism and Insanity in Paris.—The number of insane in Paris admitted to the special infirmary for such cases has increased from 3,084 in 1872 to 4,449 in 1888. Alcoholic insanity is said to be twice as frequent as it was fifteen years ago.

The Missouri Medical College of St. Louis has absorbed the St. Louis Post-Graduate School of Medicine. The building and the faculty of the latter institution will be used for the benefit of the senior class and of medical graduates. The Missouri Medical College intends next year to adopt a three years' graded course.

Bequests to Charities.—The Home for Incurables at Fordham gets $5,000 from the will of Thomas Hope, and the same sum from the will of Mary Rogers. The New York Cancer Hospital gets $30,000 from the Rogers estate, and the Hospital for Ruptured and Crippled $20,000. The Manhattan Eye and Ear Hospital and the New York Skin and Cancer Hospital each gets $3,000 from the Hope estate.

International Medical Congress—Special Features.—A special feature of the meeting will be the presentation of literary *souvenirs*. One of these, as we announced some time ago, will be the new edition of Professor Virchow's "Cellularpathologie." Others will be a history of the development of medical societies in Germany, presented by the German Medical Association, and an account of all the institutions established in Prussia for the cultivation of medical science, presented by Dr. von Gossler. The city of Berlin will also contribute a *Festschrift* of a corresponding kind.

Mount Sinai Hospital will soon have a new and commodious dispensary.

International Congress of Women Physicians.—A number of Chicago "lady medicals" have organized a committee for the purpose of securing an International Congress of Women Physicians, in 1892.

The Solicitation of Patients arriving at Hot Springs, by the "drummers" of the quacks there resident, has become such a nuisance that the city council has forbidden the practice by an ordinance, and is arresting the "drummers" and their employers.

A State Sanitary Convention will be held in Norristown, Pa., in May next.

International Medical Congress—Section on Pathology.—In the Pathological Section the subjects already fixed for discussion are: 1, Lesions of the Myocardium; 2, The Part Played by Leucocytes in the Formation of Tissue; 3, Tuberculosis. In the Section of Neurology and Psychiatry a discussion on the Surgery of the Central Nervous System will be introduced by Mr. Victor Horsley; one on Traumatic Neuroses, by Dr. Schultze, of Bonn; and one on the Pathological Anatomy of Dementia Paralytica, by Professor Mendel, of Berlin. In the Section of Hygiene Dr. E. Roux, Director of the Pasteur Institute in Paris, and Professor Löffler, of Greifswald, will introduce a discussion on The Means of Preventing the Spread of Diphtheria; Professors Thiry, of Brussels, and Kaposi, of Vienna, one on The Sanitary and Moral Dangers of Prostitution and the Means of Repressing it; Professors Max Gruber, of Vienna, Erismann, of Moscow, and Dr. Baer, of Berlin, one on Hygiene in Reformatories, Houses of Refuge, Foundling Hospitals, etc.; Professor Sormani, of Pavia, and Dr. G. Cornet, of Berlin, one on International Measures for the Prevention of Tuberculosis; Drs. H. P. Walcot, President of the Massachusetts State Board of Health, von Fodor, of Budapest, and E. Almguist, of Gothenburg, one on The Increased Prevalence of Typhoid Fever in a Number of Districts which had been more or less Free from it for Several Years; Professor Forster, of Amsterdam, one on The Nourishment of the People in Time of War and Epidemic; Professor Franz Hofmann, of Leipzig, and Dr. Petri, of Berlin, one on The Tenability of the Views now Commonly held as to the Injurious Effects of Cemeteries on the Public Health; Professor Flügge, of Breslau, one on Infant Mortality and Infant Feeding. Addresses will also be delivered by Professor Sormani, on The Etiology and Prevention of Tetanus; by Dr. Ludwig Czatary, of Budapest, on The Hygiene of Railway Travelling; and by Professor Neisser, of Breslau, on Venereal Disease and the Medical Control of Prostitutes.

Sections on Rhinology, Laryngology, and Pædiatrics—In the section on Laryngology it is announced that there will be papers on Laryngeal Cancer, by B. Fränkel; Deviation of the Septum, by Moure, of Bordeaux, and Hartmann, of Berlin; Diagnosis and Therapy of Diseases of the Accessory Nasal Cavities, by P. McBride, of Edinburgh, and J. Schech, of Munich; Syphilis of the Upper Air-passages, by L. Schrötter, of Vienna, and Lefferts, of New York; Acute Infectious Inflammations of the Larynx and Pharynx, by P. Messei, of Naples, and Mor. Schmidt, of Frankfort. In the Pædiatric Section Dr. O'Dwyer, of New York, will open a discussion on Intubation.

Regulating Medical Practice in New Jersey.—A law has passed the Legislature creating a State Board of Medical Examiners.

A Slander on American Medical Students.—An English contemporary in the *Medical Press* publishes the following gratuitous slander upon American medical men: "The German schools of medicine continue to have a great attraction for foreign students, nearly two thousand of whom are in attendance. Half of these are Americans, who burn to be able to announce in the local journals on their return that Dr. So-and-so has just located at —— Street on his return from studying under the celebrated X. at Berlin or elsewhere." No such practice as that intimated by our contemporary is current in this country.

Western Pennsylvania Medical College.—The fourth annual Commencement exercises of the Western Pennsylvania Medical College were held in the Grand Opera House, Pittsburg, on March 27th. The degree of M.D. was conferred on twenty-nine graduates.

The Pneumatoscope.—At the meeting of the Vienna Medical Society on February 26th, Dr. Gabritschewski, a Privat Docent, of Moscow, exhibited an instrument invented by himself called a pneumatoscope. It consists of two funnels inverted into each other, and two tubes provided with two end-pieces which the examining physician applies to his ears. The inverted funnel is covered with a light vibrating membrane of india-rubber, and is placed on the patient's mouth so that he breathes into it. According to the inventor his discovery will effect a revolution in thoracic examinations. He has used it very successfully in the diagnosis of chest affections. The sound-waves permit a more accurate differential diagnosis as different breath-tones were produced in the different diseases. The instrument can also be made use of in examining the breast.

Pennyroyal as an Emmenagogue and Abortifacient is much advertised in sporting and other lay journals, and is extensively used by married women in some localities. Dr. A. D. L. Napier writes to the *British Medical Journal* a letter bearing upon the question of limiting its sale by law. He says: "It appears that the therapeutic action of pulegium as an emmenagogue is very imperfectly known. The drug is used very freely by many married women to hurry on delayed periods. One lady told me that she always kept a supply, and took large doses if the menses did not come on. She was much distressed to find that the drug failed to have the desired effect on the occasion I saw her, and added: 'My sister-in-law takes it regularly when she passes her time, and invariably finds the period to come on in three days.' I made some inquiry regarding the practice, and find that among many classes it is recognized as a tolerably certain abortifacient, and esteemed as less hurtful than aloes, savine, cantharides, ergot, elaterium, croton-oil, black hellebore, squills, or even borax. At the same time it is very questionable if any of these drugs can be regarded as absolutely certain to interrupt gestation. Given a healthy embryo in a healthy and normally placed uterus, it is by no means easily injuriously affected. But if by causing irritation or congestion of the uterus an early abortion is once procured, it is very probable that the process may be repeated indefinitely. I cordially agree with the suggestion that greater precautions should be enforced regarding the sale of such drugs."

GOING TO BERLIN.

A NUMBER of our subscribers having written to us for information in relation to the forthcoming congress to be held in Berlin on the 7th of August next, and especially for information concerning the transatlantic voyage and the necessary travel on the other side, we give herewith, with more detail than has heretofore been done at any time, such instructions and advice as may be of assistance to one who has had no experience whatever. The information given as to expenses, and other information of like nature, may be relied upon in every particular.

Preliminary.—Presuming that all who wish to attend the Congress can readily find their way to the city of New York, we may state, beginning from this point, that there are numerous lines of steamers leaving the port of New York for the other side, offering a great variety in accommodation, as well as in the cost of the passage. The fares range from $65, the round trip, on some of the lines, to as much as $600, and even more, for some of the choicest and most desirable staterooms on the newest and most fashionable steamers. It may be stated, however, that whatever price is paid for the ticket, the position and accommodations of every first-class passenger on the steamer, in the saloons, at meals, or on deck, are precisely the same; those paying the highest rates having no advantage whatever over those paying the lowest, except in the matter of sleeping cabins or staterooms.

Passports are not now required, except in Russia and Turkey.

Money.—On arrival in New York you should purchase a letter of credit for such amount as you may have set aside for the purpose, of some first-class bankers, such as Brown Bros. & Co., Drexel, Morgan & Co.

You should also, if you propose landing in England, purchase $10 or $20 worth of English gold and silver, and if you can arrange to do this just before you go aboard the ship, it will be an advantage to you to carry no American money with you. If you land at Havre or Antwerp, get the same amount of French gold and silver, If you land in Hamburg, get the same in German gold and silver. Whatever American money you may have left in your pockets when you go aboard the steamer you can get exchanged into the money of the country that you propose to land in by the purser, although, of course, he will charge you considerably more for the accommodation than a banker would do.

Guide Books.—We think you would find it an advantage also to purchase a good guide book to the countries you intend visiting, before leaving America, as you may have opportunities of consulting it while on the steamer. Baedeker's Guides are considered to be the best. Baedeker's Guide for Great Britain costs $3.00; for Northern Germany, $2.10; for Belgium and Holland, $1.80; for France, $2.10; for Switzerland, $2.40.

These can be ordered through any bookseller before you leave home, or they may be had from Scribner & Welford, 743 Broadway, New York City, who will furnish on application a complete list of these books, or, if preferred, they can be obtained anywhere in Europe.

About Steamers.—Presuming that many physicians will take advantage of their trip across the ocean to see something of other things and places besides the Congress in Berlin, we will give first the list of steamers leaving New York, and their ports of destination, together with the prices charged for the ocean passage alone, and also in connection with railway travel through various points on the other side, to Berlin. Tickets may be procured in New York for the entire round trip, but, except that there is an advantage in saving of expense in purchasing a round-trip ticket by the same line of steamers, we would advise that tickets be not purchased in New York for a fixed route further than to Berlin, leaving the settlement of the return trip for consideration and definite conclusion until after reaching that city.

State Line of Steamers leave New York every Thursday for Liverpool; round-trip tickets from $65 to $95, according to size and location of state-room; duration of voyage, about ten days.

Anchor Line.—Leave every Saturday for Liverpool, or Glasgow; round-trip tickets from $100 to $120 Glasgow service; $120 to $180 Liverpool service, according to size and location of state-room; duration of voyage, about nine days.

Guion Line.—Leave every Tuesday for Liverpool; round-trip tickets from $100 to $180, according to size and location of state room; duration of voyage, about eight days.

Inman Line.—Leave Wednesday and Saturday for Liverpool; round-trip tickets from $110 to $225, according to size and location of state-room; duration of voyage, about seven days.

Cunard Line.—Leave Wednesday and Saturday for Liverpool; round-trip tickets from $120 to $220, according to size and location of state-room; duration of voyage. about seven days.

White Star Line.—Leave every Wednesday for Liverpool; round-trip tickets from $120 to $270, according to size and location of state-room; duration of voyage, about seven days.

Red Star Line.—Leave every Wednesday for Antwerp; round-trip tickets from $109 to $180, according to size and location of state-room; duration of voyage, about nine days.

Hamburg American Packet Co.—Leave every Thursday for Hamburg via Southampton, England; round trip tickets from $90 to $200, according to size and location of state-room; duration of voyage, about 6½ days.

Norddeutscher Lloyd.—Leave Wednesday and Saturday for Bremen, via Sonthampton, England; single tickets from $100 to 175, according to size and location of state-room; no reduction on round trip tickets; duration of voyage, about seven days.

French Line.—Leave every Saturday for Havre; round-trip tickets from $144 to $216; according to size and location of state-room; duration of voyage, about 7½ days.

You can readily find the office of any of these lines in New York, at any of which every courtesy and information concerning the steamers of the line will be given.

Excursion Tickets.—If you decide to buy an excursion ticket, you cannot do better than to consult with Messrs. Thomas Cook & Son, 261 Broadway, New York, who have supplied us with the following list of "tours" for which they will sell round-trip tickets at the prices affixed.

Tour 1.—New York, by State Line Steamer to Glasgow; rail to Edinburgh, Melrose Abbey (Abbotsford). Carlisle, London, Harwich, Antwerp, Brussels, Cologne. Hanover, Berlin, Rotterdam, Harwich, London, Glasgow; State Line Steamer to New York.

First Class throughout	$143 00
First Class steamers, mixed* R. R.	122 50

Tour 2.—New York, by State Line Steamer to Glasgow; rail to London, Harwich, Rotterdam, Hanover, Berlin, Leipsic, Frankfort, Wiesbaden, Biebrich; steamer down the Rhine to Cologne; Brussels, Antwerp. Harwich, London, Carlisle, Melrose Abbey (Abbotsford). Edinburgh, Glasgow; State Line Steamer to New York.

First Class throughout	$145 00
First Class steamers, mixed* R. R.	124 00

Tour 3.—The same route to Berlin as Tour No. 1; then to Dresden, Carlsbad, Nuremberg, Munich (for Ober Ammergau), Lake Constance, Zurich, Lucerne, Bale, Paris, Rouen, Dieppe, Brighton, London, Glasgow; State Line Steamer to New York.

First Class throughout	$175 50
First Class steamers, mixed* R. R.	145 00

Tour 4.—New York, by Red Star Line Steamer to Antwerp; rail to Brussels, Cologne, Hanover, Berlin. and return to New York by the same route.

First Class throughout	$158 00
First Class steamers, mixed* R. R.	148 00

Tour 5.—The same route to Berlin as Tour 4; then to Leipsic, Frankfort, Wiesbaden, Biebrich; steamer down the Rhine to Cologne; Paris, Rouen, Dieppe, Brighton, London, Rowsley (for Haddon Hall and Chatsworth House). Liverpool, and Inman Line Steamer to New York.

First Class throughout.....$182 50
First Class steamers, mixed* R. R..... 167 50

Tour 6.—The same route up to Frankfort as Tour No. 5; then to Heidelberg, Baden Baden, Strasburg, Paris, Rouen, Dieppe, Brighton, London, Rowsley (for Haddon Hall and Chatsworth House), Liverpool; Inman Line Steamer to New York.

First Class throughout.....$185 00
First Class steamers, mixed* R. R..... 168 50

Tour 7.—The same route up to Berlin as Tour 4; then to Dresden, Munich (for Ober Ammergau), Lake Constance, Zurich, Lucerne, Bale, Paris, Rouen, Dieppe, London, Liverpool, and Inman Steamer to New York.

First Class throughout.....$196 00
First Class steamers, mixed* R. R..... 175 50

Tour 8.—New York, by Anchor Line Steamer to Glasgow; rail to Edinburgh, Melrose (Abbotsford), Carlisle, London, Harwich, Antwerp, Brussels, Cologne, Hanover, Berlin, Dresden, Munich, Innsbruck, Bolzen, Brenner Pass, Verona, Venice, Florence, Rome, Naples; Italian Line Steamer to New York.

First Class throughout.....$229 00
First Class steamers, mixed* R. R..... 201 00

Tour 9.—New York, by Guion Line Steamer to Liverpool; rail to Rowsley (for Haddon Hall and Chatsworth House), London, Harwich, Rotterdam, Berlin, Hanover, Cologne, Brussels, Antwerp, Harwich, London, Leamington (for Kenilworth Castle and Stratford-on-Avon), Liverpool, and Guion Line Steamer to New York.

First Class throughout.....$164 00
First Class steamers, mixed* R. R..... 146 50

Tour 10.—The same route to Antwerp as Tour 9; then to Paris, Rouen, Dieppe, Brighton, London, Leamington (for Kenilworth Castle and Stratford-on-Avon), Liverpool, and Guion Line Steamer to New York.

First Class throughout.....$174 55
First Class steamers, mixed* R. R..... 155 50

Tour 11.—New York, *via* Cunard, White Star, or Inman Line Steamer to Liverpool; rail to London; thence *via* Queensboro and Flushing to Berlin (Royal Mail Route, journey London and Berlin, 26 hours). Returning *via* Dresden, Carlsbad, Nuremberg, Munich (for Ober Ammergau), Lake Constance, Zurich, Lucerne, Brunig Pass, Interlacken, Berne, Lausanne, steamer on Lake to Geneva, rail to Paris, Rouen, Dieppe, London, Liverpool, New York.

First Class throughout.....$242 00
First Class on Atlantic Steamers, second beyond. 215 50

Tour 12.—New York, by Hamburg-American Express Steamer to Hamburg, thence by rail to Berlin, and return to New York the same way.

First Class throughout.....$194 50
First Class steamer, second class R. R..... 190 80

Tour 13.—As tour 11, *via* Hamburg-American ordinary steamer, and return.

First Class throughout. $129 50
First Class steamers, second class R. R..... 125 80

Tour 14.—New York, by North German Lloyd Steamer to Bremen, thence rail to Berlin, return same way.

First Class throughout.....$215 60
First Class steamers, second class R. R..... 211 60

Tour 15.—New York, by Netherlands Steamer to Amsterdam, thence rail to Hanover, Berlin, and return *via* same route.

First Class throughout.....$126 50
First Class steamers, second class R. R..... 120 00

* Mixed class is third class in Great Britain and second class on the Continent.

Note.—The prices shown above are at the ordinary rates. *Reductions* in many cases are made to bona-fide medical men, and in some instances to their wives and families.

All the foregoing tours can be used in either direction, and those reading via Liverpool can be routed by way of Birmingham, with stop-over privileges.

Preparations for the Voyage.—A heavy overcoat, and thick woollen underclothing should be taken to wear upon the steamer, as it is always cool upon the Atlantic; and the comfort of the voyage will usually be much increased by taking a "steamer chair" as it is called, and a rug. The former can be purchased in New York for from $2 to $5, and the latter at from $2 or $3 up.

Information as to your baggage will be given you at the office of the steamer.

As soon as possible after the steamer leaves its wharf, it is well to see the steward and arrange for your place at table during meals. If you think you are likely to be ill during the voyage, a seat on the outside of the table, and as near the door as can be had, is desirable.

No fees are necessary on the steamer until just before going ashore on the other side, when the steward who looks after your state-room will expect a fee of ten shillings sterling (about $2.50), and the one who waits on you at table, a like sum.

Should you have any meals served on deck, the steward who does duty there will expect say four shillings sterling ($1). If you frequent the smoking-room, the attendant will also be on the lookout for a fee. The proper amount for this individual being 2s. 6d., or 60 cents. Last you will find the "boots" who has cleaned your shoes each morning, on the lookout for his "tip" of say 2s. or 2s. 6d. when you are about to go ashore. This, you say, is un-American. We do not believe in fees: but remember you will not then be in America, and for your own comfort follow the custom in this matter, and you will find the result most satisfactory. You may escape the "boots" by wearing a pair of brown leather or steamer shoes, a course followed by many travellers.

Landing in Europe.—Before going ashore you will be provided by the steward with the initial letter of your last name, perhaps four to six inches large, printed on paper already gummed, in sufficient number to paste one upon each article of your state-room baggage, all of which will be taken ashore by the stewards and assorted on the landing pier, together with the baggage of all the other passengers, in groups represented by the same letters. Whatever baggage you may have in the hold of the ship will also be assorted in this way, so that you will have no difficulty in getting together everything that belongs to you.

On landing you will be met by a Custom House official, who will want to know if you have anything dutiable (the only things subject to duty being perfumery, wines, spirits, and tobacco) or any fire-arms, or reprints of copyrighted English works. He will probably make a cursory examination of your baggage. Say nothing, be pleasant, and you will find him the same. If you land at a port where the language spoken is not English, and you are not able to speak it, it will save trouble to look out for "Cook's" agent. He will give you all the information you may need, and will act as interpreter if necessary.

In England.—Should you go via Liverpool, you will find a special train on the Midland R. R., waiting to take you to London, which will be reached in five hours.

In England, most of the railroad trains have first, second, and third class carriages. It is the general custom in England to consider the cost of railway travelling more than is done in America, and, while first class railway fares do not vary much from the cost of travelling in parlor-cars in America, most avail themselves of the lesser cost of travel in the second and third class carriages.

In England, we think you will find it to your advantage to purchase your railroad tickets from place to place only, unless you are quite sure you know exactly where

you wish to go en route from your place of landing to the point of departure for the Continent. In the latter case we would advise you to purchase through tickets from Messrs. Cook & Son.

Travel on the Continent.—When you are ready to leave London for the Continent, if you have not previously bought your ticket direct to Berlin, we would again advise you to mark out your route and get a through ticket to Berlin from any of Messrs. Cook's offices in London.

If you cross the ocean by the French line you will land at Havre, whence a special train will take you to Paris. The North German Lloyd lands you either at Southampton or Bremen, as you may decide before leaving New York. The Hamburg American Co. will take you to Plymouth (Eng.) or Hamburg, and the Netherlands America Co. to Rotterdam, while the State Line will land you at Glasgow. From any of these points you will find your own way to Berlin.

Do not carry too much clothing. Gentlemen will find a couple of suits ample for a two months' trip. Ladies should only take a small trunk, as they will find it very much easier to get along with a small rather than a large amount of baggage. This will apply also to the Customs examinations. It must also be remembered that the railways on the Continent of Europe do not allow as much baggage as the companies do in America. All over the Continent of Europe the railways only allow sixty pounds per passenger, with the exception of Switzerland and Italy, where *all baggage* has to be paid for. In England, first class passengers are allowed one hundred pounds each.

Second class railway travelling is very comfortable throughout Germany and France, and gentlemen travelling alone (without ladies) need never go to the expense of first class fares. In Switzerland it is not at all uncommon to travel third class.

On arriving at the railway station, a porter will come to your carriage and take your trunk to the baggage-room. If you are using Cook's Circular Tickets, you go at once with him; otherwise, you must go to the ticket-office, and be sure you obtain tickets for the place you wish to go to, and the proper class. Then follow the porter to the baggage-room, point out your trunk, and give your ticket to the baggage-man. Your baggage will then be weighed, and after you have paid and taken a receipt for it, your ticket will be handed back to you, together with a small piece of paper, upon which is printed a number corresponding with a similar slip pasted upon your trunk. This, it will be perceived, corresponds with the check system in vogue in this country. It is quite customary, though not obligatory, to pay the man who weighs your baggage a small fee, the equivalent of about five cents, and the porter who carries it into the baggage-room, the equivalent of ten cents. In England, the porter expects a sixpence. If you wish to leave your trunk at the railroad station until you have secured your rooms, it is only necessary to retain the paper check, which can be presented subsequently, when you have ascertained where you will lodge. The porters who run alongside the trains as they arrive at the stations, to carry your baggage to the carriage, expect a fee of the equivalent of from five to ten cents. Before entering a railroad car it is always safer to mention the name of the place you wish to go to, to the guard, to make sure of entering the right compartment. The classes, first, second and third, are always prominently painted on the sides of the car.

For names of hotels to stop at, in all the different places in Europe, it is perfectly safe to follow the advice given in Baedecker's guide books.

During your travels, especially on the Continent, you will find many things very different from what you are accustomed to at home. You will have to provide your own soap, as none of the hotels furnish it. You will usually also find a charge for candles in your hotel bills, even though you may not have as much as lighted them, though in this case, a statement of the fact is sometimes sufficient to have this charge cancelled. To your every expostulation, you will get the reply, "it is the custom of the country." The "portier," whom you will find resplendent in gold lace and buttons, at most hotels, will give you all the information you want, and expect a fee for doing so. When you leave, give him the equivalent of from twenty-five to fifty cents according to the extent to which you have used his services. This worthy speaks all the European languages, and will always be found very obliging.

Obituary.

THOMAS C. FINNELL, M.D.,

NEW YORK.

Dr. Thomas C. Finnell, who years ago was an active practitioner in this city and was deputy coroner for a long period, died of cerebral meningitis, April 9th. He was born in this city in 1826, and studied medicine with Professor Gunning S. Bedford. He graduated from the medical department of the University of the City of New York, in 1849. Twenty years ago he was the examining physician for the Board of Coroners. About that same time he became the attending surgeon of St. Vincent's Hospital. At the outbreak of the war he answered the Governor's call for volunteer surgeons, and served to the end. He was a member of the Medico-Legal Society, the Society of Medical Jurisprudence, the State Medical Society, the Academy of Medicine, the Pathological Society, the County Medical Society, and the Physicians' Mutual Aid Society. He leaves four sons. Two of them are physicians. One of these, Thomas C. Finnell, jr., succeeded to his father's practice two years ago, and the other, James M. Finnell, is in practice in St. Paul, Minn.

Reviews and Notices of Books.

Introduction to the Treatment of Disease by Galvanism. By Skene Keith, M.B., F.R.C.S.Edin., late Special Assistant Surgeon, Royal Infirmary, Edinburgh. London: Truslove & Shirley.

This little work presents in brief compass most, if not all, that it is necessary for the physician to know about electricity in order to be able to employ the agent intelligently in the treatment of disease. The book could be read through in an hour, and there are not very many who would not learn something by devoting this much time to its perusal.

Clinical Lectures on Some Obscure Diseases of the Abdomen. Delivered at the London Hospital, by Samuel Fenwick, M.D., Fellow of the Royal College of Physicians; Physician to the London Hospital. London: J. & A. Churchill. 1889.

These are nine lectures delivered before the senior students at the London Hospital by Dr. Fenwick. In choosing the subjects of these the author selected the cases which he had himself found most difficult to diagnose or treat, or in the management of which he had made some mistake. The book is of special interest at this time when abdominal surgery is making such advances, and when the chief obstacle in the way of its further and more rapid progress is the difficulty of arriving at a correct and early diagnosis of the condition present within the abdomen, and for which relief is sought at the knife of the surgeon. The lectures treat of perforation of the vermiform appendix, stricture of the ileo-cæcal valve, fecal abscess, perinephritic abscess, gastric and perigastric abscesses, tubercular peritonitis in the adult, and cancer and hydatids of the peritoneum. It is hardly necessary to assure those who have ever read any of Dr. Fenwick's published writings that this new work will well repay careful perusal.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON THEORY AND PRACTICE OF MEDICINE.

Stated Meeting, March 18. 1890.

FRANCIS DELAFIELD, M.D., CHAIRMAN.

DR. STEPHEN SMITH BURT read a paper on "Pulmonary Consumption in the Light of Modern Research" (vide page 397).

Pathological Exhibits of Pulmonary Pneumonia and Tuberculosis.—DR. J. H. LINDSLEY gave a "Lantern Exhibition of Photo-micrographs," which included portions of the normal lungs and of the lungs in pneumonia and in tuberculosis. He also exhibited representations of the tubercle bacilli.

Transmission of Disease by Inheritance.—Dr. A. JACOBI said that he would confine his remarks to the question of the direct transmission of the disease by inheritance. We frequently found children who are puny from birth becoming tuberculous at an early age. In others the heart was very small congenitally, so that the circulation was defective. In others, again, there was a congenital smallness of the pulmonary artery, giving the same result. In still others there was premature ossification of the ribs, resulting in a lack of expansion in the chest-walls which certainly crippled the development of the heart and lungs. The condition of the epithelium of the bronchial tubes, which necessarily resulted from insufficient circulation, also rendered the child peculiarly susceptible to morbific processes, such as tuberculosis; while, as long as the epithelium remained normal injurious matter would not be admitted to the lungs.

There were a number of writers who did not believe in the direct hereditary transmission of tuberculosis, and it was indeed a very difficult matter to prove, as there was a possibility of the bacilli of the disease being introduced into the system at a very early period of life, in the food and by other means. Dr. Jacobi quoted the opinions of Bender, Virchow, Epstein, and others, and said that the latter author had reported that in two hundred tuberculous infants he could not find a single one in which direct hereditary transmission was established by positive evidence.

Sometimes Directly Inherited.—On the other hand, there were some circumstances which afforded ground for the belief that tuberculosis is sometimes directly inherited. This had been the opinion held for thousands of years. Bremer's figures, he thought, ought not to be excluded, and Virchow had shown that various drugs as well as syphilis, and other diseases, could be transmitted to the fœtus in utero through the placental circulation. Jongh had found tubercles in the body of a still-born calf whose mother was tuberculous. Dr. Jacobi went on to say that in Keating's "Cyclopædia of the Diseases of Children" he had recently inserted an account of a case which he had met with thirty years ago, and which, he believed, was thus far unique. A fœtus, still-born at seven months, showed the presence of tubercles in the spleen and other organs. He believed, therefore, that there was a possibility of direct transmission. In tuberculous children, if the source of infection had been taken into the system by inhalation or with the food, we would naturally expect that the disease would develop in the lungs or in the intestines. But this was very rarely the case, the tuberculous process being ordinarily located in the glands and the bones. Many of these cases of tuberculous disease are observed in the first year of life, and were apt to last a very long time; and they seemed to afford some ground for the probability of direct hereditary transmission.

How Little Koch's Discovery has done for Treatment of Phthisis.—DR. WILLIAM H. DRAPER said that he confessed to a feeling, not perhaps of disappointment, but, at all events, of depression, when he reflected how little the discovery of Koch has really done toward mitigating the great evil of tuberculosis. If anything, it seemed only to have complicated matters for us. The rôle which the bacilli played did not appear to have been as yet completely made out. In lupus they were found localized without producing general infection of the system. The same was sometimes true also of bacilli in the glands, and when in the latter case they did give rise to infection, it was often not until after quite a long period of time. When the bacillus had its lodgment in the lungs it appeared to produce its most serious results. Yet even here its effects were sometimes quite circumscribed, and it was well known that certain cases of pulmonary tuberculosis recovered. The action of the microbe was not, then, clearly explained. We were told by some that the bacilli secretes ptomaines which do the sole mischief in tuberculosis. Others told us that, in order to be efficient as a cause of disease, the bacillus must meet with and combine with some other organism, in regard to the nature of which nothing is at present known.

How far had the discovery of Koch affected our treatment? At first we had supposed that it would have some great effect as regards the prevention and treatment of consumption. But, unfortunately, we seemed as helpless as ever to act against such a widely extended agent as the tubercle bacillus. We could not destroy it, and we could not escape it unless we fled from regions where the bacilli were found to be especially prevalent. The cautions against the spread of the infection by means of the sputa of tuberculous patients, etc., were undoubtedly most valuable suggestions; but they had not yet been systematically carried out, even in our best hospitals. He did not believe, for his part, that it would ever be possible to control the American habit of expectoration.

Cases Treated in the Same Old Way.—As regards the treatment of phthisis, we now managed cases of the disease in very much the same way that we did before we knew about the bacillus. We could not destroy this bacillus in the body, any more than we could destroy it outside of it. So far as prevention was concerned, however, he thought that the discovery had enabled us to add more weight to our advice to patients to flee from localities where the bacillus abounds in numbers. There were certain regions where they were comparatively unknown, and a residence in such a climate was of the greatest importance in the early stages of phthisis.

That the discovery of Koch was ever destined to help us much in the treatment of this disease after it was well established in the system seemed to him very unlikely. He confessed that the outlook was discouraging as regards phthisis that was well advanced.

DR. ANDREW H. SMITH said that he shared to a considerable extent the discouragement which Dr. Draper had expressed. He thought that while the search for some germicide to combat the tubercle bacillus should not be altogether given up, this should not be made so prominent a feature of our efforts as to lead us to give up the employment of other methods that might prove useful in dealing with the disease. While this search had been going on it seemed to him that we had lost something in slighting other means of treatment. Still, it did not appear unnatural to hope that the time would come when some means would be discovered which, if it would not destroy the bacilli, would at least limit the facility with which they propagated.

Positive Danger from Contagion.—One great benefit resulting from Koch's discovery was that we were now in a position to say to our patients that there is a positive danger from contagion in this disease. It had been his lot to observe the history of many cases of consumption among the population in rural districts, and he believed that the mortality in such cases was not due so much to heredity as to the environment in which these individuals lived. He had been particularly impressed with the prevalence of the disease in certain families; one mem-

ber after another being successively carried off by it. It might be that some of the older children would marry and move away from the paternal home before the disease had invaded it. Then one of the younger members of the family would contract phthisis at school or elsewhere, and from that time on one child after another would be taken down with the disease as soon as they reached a certain age, until out of a large family only the parents perhaps might be left alive.

Such unhappy results he believed are due largely to the mode of life in the country, notwithstanding the fact that naturally the locality might be perfectly salubrious. Among the rural population the sleeping rooms were commonly very small, and two persons usually slept in each. The admission of air into the house was generally regarded as the greatest element of danger to health, and the entire winter was apt to be passed with scarcely any ventilation. Furthermore, there were but few of the changes in the household which were so frequently made in the city. The furniture and the hangings, etc., which were generally of such a material as not to admit of washing, were left unchanged for several generations, it might be; and the conditions were thus all most favorable for the continued harboring of disease-germs. Now, if we could say to these people that consumption was a distinct entity due to a specific microbe, we would have a very strong argument with which to enforce the observance of suitable precautions about the household.

Low Grade of Tissue-cells most to be Feared.—But aside from this, we come to the point that a low grade of tissue-cells, rather than tuberculous disease itself, was transmitted by tuberculous parents to their offspring. Hence, as Dr. Burt had emphasized in his paper, it was of the utmost importance that we should begin early with the children of such parents in our efforts to improve their nutrition and strengthen their vital powers. Hence it was necessary, from a sanitary as well as a moral point of view, that parents should learn to control their children, and not permit themselves to be overruled, as was so commonly the case among the indulgent.

Nothing had so far been said as to the relation of bronchial catarrh and tuberculosis, as he had hoped. It had seemed to him that bronchial catarrh was often the starting-point for tuberculosis; but whether there was anything more in this apparent relation than the fact that the condition of the mucous membrane in this affection offered a favorable place of lodgment for the tubercle bacilli was a question which as far as he knew had not yet been determined. If the epithelium were in a normal condition, as Dr. Jacobi had stated, noxious material could not well be taken into the lungs; but bronchial catarrh was frequently due to faulty environment, and as the epithelium readily became impaired, it could be seen how important it was that children especially should be kept as free as possible from all influences tending to lower the vitality.

Supplemental Alimentation.—As to the treatment of phthisis, he desired to speak particularly of the importance of supplemental alimentation by means of the rectum. This was a means of increasing the nutrition which ought not to be neglected, and he had personally seen some very remarkable results from this practice.

Necessary to have a Favorable Soil for the Development of the Seed.—Dr. R. C. M. Page said that any condition or combination of circumstances that would produce the requisite degree of lowered vitality in any given case, would furnish a favorable soil for the reproduction of the tuberculous virus. He would not stop to consider the various causes of lowered vitality, but it might be acquired or inherited. This inherited predisposition to a condition of lowered vitality, including narrow chest, imperfect heart and arteries, as alluded to by Dr. Jacobi, would seem, other things equal, to furnish a more favorable soil for the growth and proliferation of bacillary germs of tuberculosis than such a condition acquired in a person previously healthy. But there was no doubt, from daily observation in practice, as well as from experiments, that in either case infection with tuberculous virus may occur in a number of ways—chiefly, he thought, through the inhalation of air containing the germs in dried sputa. But according to the experiments of Chauveau, Villemin, Tappeiner, and others, from 1867 to 1876, this virus may be transmissible not only by the respiratory and digestive tracts through infected air or food, but also by subcutaneous inoculation, the integument stripped of its epidermis, the conjunctiva, and genito-urinary tract; by dermatoses, which destroy the epidermis; through sudoriparous and sebaceous glands; and, finally, through wounded and absorbing surfaces.

Among foods, milk, and especially cow's milk, was undoubtedly a vehicle for infection in this disease, for although practitioners in general had not followed up this source of infection to the particular cow from which it came, the matter had been sufficiently proved by scientific experiment to place it beyond doubt. For this reason in the city of Paris it is now the universal custom to boil all cow's milk before using it.

Ovule may Become Infected.—Not only does inheritance furnish a vulnerable point for vagrant tuberculous germs in the way already referred to, but according to the experiments and observations of Landouzy and Martin, of Paris, the ovule may have tuberculosis communicated to it directly through bacillary germs, or sporules, contained in the spermatozoa. In one such case, observed by them, the father and children died of the disease, the mother escaping.

He thought that the author of the paper was evidently correct in the statement that treatment is futile so far as there is any particular antidote. At most the treatment by medicines was symptomatic, the real cure, when it did occur, being effected more by climate, diet, and hygiene in general.

Regarding prophylaxis, the persistent destruction of infectious material, as indicated by the author, was of the utmost importance. Unfortunately, as Dr. Draper had observed, it was difficult, if not impossible, to regulate expectoration, and for that reason infectious matter, though it may be limited, could not be exterminated except in hospital practice. Marriage between consumptives, on the other hand, could and should be prohibited or restricted. In this way the chief source of a favorable soil for tuberculous germs would be cut off.

Finally, if the means of curing tubercular pulmonary consumption be found, there remains the great importance of early diagnosis and treatment, since after the organs of respiration become involved in pathological changes, with more or less loss of tissue, there are other serious conditions left for consideration even though the virus has been counteracted.

Simply a Step Onward.—Dr. J. West Roosevelt said it seemed to him that the most important thing for us to remember regarding the "light of modern research," as far as it concerned consumption, was, that it is as yet a faint and uncertain light—a dawn, as it were, which, though it promises the sun, gives but a dim, mist-obscured view. The proof of the bacterial origin of phthisis simply led us a step onward. It should not change our practical ideas of the disease save as regards one point, namely, prophylaxis. As Dr. Burt had said, there was danger in living with phthisical patients. The destruction of expectoration was easy, and there was no more reason for not destroying the bacillus than for keeping strong poison on hand within easy reach of every child, and in a place where it was likely to get into the family food. We should instruct our patients to expectorate into the fire, or into receptacles that could be readily emptied into the fire; and this would at all events do something toward preventing the spread of the infection. It was true that tuberculosis was in a measure a self-limited affection; but, unfortunately, this self-limitation was frequently not reached before the unhappy subject of the disease died.

The Absurdity of Antiseptic Treatment.—The absurdity of so-called antiseptic treatment, based upon the usual experiments with germicides, was now fairly well appreciated, as had been clearly stated by Dr. Burt. It seemed that the acme of preposterousness had been attained when it was suggested to try to kill the bacilli by means of gaseous enemata—to "boost" them out, as it were. Some time ago, in a short paper before this Section of the Academy, Dr. Roosevelt said he had ironically suggested that it would, perhaps, be well to heat up a patient, and thus destroy the bacilli in him; and had remarked that there was a small difficulty in the way of carrying out this procedure, namely, the roasting of the patient. He did not then know that the hot-air method of treatment would seriously engage the attention of the profession. It was hardly conceivable that any one should think that the air within the lungs could be heated much above 100°. If it were, the whole body temperature would rise proportionately, since all the blood had to pass through the lungs. Moreover, the actual amount of air inspired and exhaled was very small compared with the quantity of residual air. The amount of heat lost merely in passing through the upper air-passages and large bronchi must be enormous. Moist tubes with a large surface surrounded by a moving fluid at a temperature of about 100° would lower the temperature of an enormous bulk of air.

Inhalation of Dry Hot Air.—If the temperature of the air in the lungs should be raised sufficiently to kill the bacilli, the fluid in which they lay, whether they were in the tissues or the expectoration, must be raised to a corresponding extent; and this means coagulation of many albumins. Dry hot air was very different in its effect from moist hot air. While the latter would scald the upper air-passages, dry hot air could be inhaled without injurious effects at a considerably higher temperature than that at which the moist air would produce scalding. It seemed, then, that after making our search after antiseptic agents to destroy the bacilli we are left in the same position as before.

In organic chemical compounds, however, we might hope, perhaps, that something could be found which would increase the power of blood-serum to kill microbes, since there was already some reason to believe that the blood-serum possesses a certain quality which for a short time renders it capable of destroying the bacilli.

Mode of Infection.—As to the mode of infection in pulmonary tuberculosis, nothing was as yet satisfactorily established. At present we could not understand why the upper lobes of the lungs should be primarily attacked. While it was true that these parts did not get as much air as other portions of the lungs, it was also true that on this account they must necessarily take in fewer bacilli. On the other hand, bronchial catarrh not infrequently seemed to precede general disseminated miliary tuberculosis of the lungs; and this would seem to offer a good example of infection.

What, after all, was the use of this discovery? Its use was already much more apparent than was for a time that of many other things which at first seemed to be of little or no importance, but which had afterward proved of the highest service to mankind. Thus, the Alexandrian philosophers worked for years and years over abstruse problems in their geometrical studies, which seemed to have no practical value whatever. Yet upon the results of these same mathematical studies the whole modern system of navigation was founded. If by our knowledge of the more or less contagiousness of phthisis we are able to save a few lives, this knowledge was worth having; and the discovery of its bacterial origin had already given us a basis upon which there might perhaps in the future be built up a successful treatment, curative as well as prophylactic.

Koch's Discovery not much of a Help in Treatment.—Dr. Charles E. Quimby said it seemed to him that the discovery of Koch had given us a light which was something far more than the faint dawn which Dr. Roosevelt had spoken of. It was true that it had not as yet helped us in the treatment of phthisis; but it had taught us what we cannot do. It had brought us back to the point that it is the patient himself that must work out his cure and that the physician can stand by his side and help him do it. He had seen enough in his experience to convince him that there are many other kinds of treatment which are better than mere change of climate. Pure air was certainly good of itself, but it was not the only thing to be taken into consideration. In every case of threatened phthisis it was important to begin by laying down an outline of dietetics and of the entire mode of life to be followed. This was to be done the moment that the patient exhibited, not signs of tuberculosis, but a tendency to the disease. In the search for some method of antiseptic treatment, it was natural that various expedients, such as the inhalation of hot air, should be suggested; but all such inadequate measures had now been happily relegated to their true position.

The Mortality of Phthisis in Rural Districts.—Dr. Edward F. Brush said that the statistics of tuberculosis in agricultural districts did not give us any idea of the real mortality from the disease there. We often heard of the comparative immunity of rural populations from it; but this was an entire mistake, and was due simply to the fact that the records of vital statistics were not kept with the same accuracy as in cities, so that many individuals were buried without any death certificate whatever. Personally, he knew of many agricultural districts where the death-rate from phthisis was as large as in the city.

Tuberculosis not Communicated to Living Offspring.—As to the matter of heredity, he had devoted special study to the question for a long time, and he believed that the fact remained uncontroverted that no authenticated instance had yet been recorded in which tuberculosis had been conveyed from a parent to a living offspring. In the case related by Dr. Jacobi, as in that of the calf reported by Dr. Jongh, the offspring was born dead. Some time since he had shut up six hens and a cock, and fed them exclusively on tuberculous lung from a cow. One of the hens was afterward found to be tuberculous; the tubercle bacillus being demonstrated in her body. The eggs laid by these hens, twenty-six in number, were taken to another part of the farm and set under two hens. Twenty-five of these eggs developed chickens, but not one of the twenty-five chicks came out of the shell alive. Of course, that experiment should be repeated, and he intended to try it again. Although all the chicks were dead, none of them presented any gross evidences of tuberculosis. No microscopic examination had been made.

A Plea for Ovarectomy.—Among cows there was a class known as "bullers," because they were in heat all the time, and this class never became pregnant. From three such cows he had removed the ovaries, and a tubercular condition was found in each of them. He had seen a great many calves from tuberculous cows, but he had never yet found the gross evidences of tuberculosis in one of them.

In closing the discussion Dr. Burt said that his hopes for the future as regards phthisis were based on what had taken place in the past, and that he did not expect as much from any specific kind of treatment as from the prevention of the disease.

Balsam of Peru and the Kidneys.—Nothnagel and Rossbach have asserted that the administration of balsam of Peru internally, excites an inflammation of the stomach, intestines, and all mucous membranes, and acts injuriously upon the kidneys. In order to determine the correctness of this assertion, Drs. Bräutigam and Nowak made a number of experiments, with absolutely negative results. They gave as much as three drachms a day for three weeks without being able to observe any trouble whatever of the stomach or kidneys. The urine was not discolored nor was its quantity changed at all.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, February 26, 1890.

H. P. Loomis, M.D., Vice-president, in the chair.

Generalized Tuberculosis, Having its Origin in the Intestine.—Dr. William P. Northrup presented some specimens illustrating this condition, which were removed from the body of an infant which had died in the Foundling Asylum at the age of fifteen months. The child had been healthly up to the age of nine months, at which time it began to droop. Before death it had a cough, moderately high temperature, and diarrhœa. Upon autopsy the liver, spleen, and kidneys were seen to be tuberculous to a moderate degree, the lungs but little affected, and the brain and meninges not at all. Opposite the middle of the ileum, within the mesentery, were eight to ten large lymph-nodes, closely grouped together; these were cheesy and had diffluent centres. The mesentery was somewhat shortened and thickened at this point, and the intestine was sharply doubled on itself, forming a knuckle, its contiguous walls being adherent. Two sinuses, having their openings in the legs of the knuckle, passed down into the thickened and contracted mesentery in a V-shape and terminated together in a cul-de-sac. A bent probe could be easily passed into one sinus, dipping down into the mesentery, and made to emerge at the other sinus. In this knuckle of ileum was a single ulcerated Peyer's plaque, the ulcers having characteristic edges. Here, then, in immediate juxtaposition were ulcerated plaque, old sinuses, thick and contracted cicatrix, cheesy and diffluent lymph nodes. No ulcer was observed in any other part of the ileum, and the enlargement of the mesenteric lymph-nodes, apart from the group just described, was but moderate, and none were cheesy or tuberculous. The colon was the seat of extensive chronic catarrhal inflammation. Examination under the microscope showed thickening of the mucosa and superficial necrosis of the epithelium. The large mesentery lymph-nodes near the sinuses were found to be tuberculous. The only cheesy lymph-nodes in the body were in the mesentery immediately about the cicatrix and old sinuses. The tubercles in the other organs were small and presumably recent.

Dr. Ely asked whether anything was known about the nurse to whose care this child had been confided, and whether any examination had been made of her breasts; he also asked what was supposed to be the cause of death, whether it was not from exhaustion in consequence of the abscess, and finally he enquired if Dr. Northrup considered the abscess to have been primary.

Dr. Northrup said that every effort had been made to ascertain something concerning the health of the nurse, but without success. The cause of death was thought at the time to be dysentery. In reply to the third question, the speaker thought that the abscess was primary.

Dr. Ely said he thought that this case was of exceeding interest in the bearing that it had upon the etiology of tuberculosis. It was to be presumed that this child had never had anything in the way of nourishment except breast-milk. Many investigations had been made both in this country and in Germany to determine the conditions of the transmission of tuberculosis by means of milk, and some had maintained that the milk might contain tubercle bacilli even when there was no disease of the udder. Dr. Ernst claims to have found cases in which there were no lesions discoverable in the udder, and yet there were tubercle bacilli in the milk. It would therefore be exceedingly interesting to have accurate information concerning the health, and especially the condition of the breasts, of the nurse who had the care of this infant.

Caries Necrotica of the Astragalus.—Dr. T. H. Myers presented a specimen removed by operation from a child, three years old, eight months after a diagnosis of tuberculous synovitis of the ankle-joint had been made from the symptoms present. The joint was not properly treated, owing to family reasons, and two months ago two sinuses opened on its inner aspect, through which carious bone was detected. The parents being unable and unwilling to carry out conservative treatment, operation was decided upon. Through lateral incisions the astragalus was shelled out of its cartilages and periosteum without the exercise of any force whatever. The cartilaginous surfaces appeared smooth, but the synovial membranes were pulpy. There were also extensive deposits of tubercular granulations beneath the anterior tendons, and on both lateral aspects of the joint. From the specimen it would seem that the disease was originally peripheral. The specimen also showed the necessity of a radical operation if any were attempted.

Sub-dural Hemorrhage.—Dr. E. D. Fisher presented a specimen of extensive sub-dural hemorrhage which had given rise to few or no symptoms. The specimen was removed from the body of a man who had died of general tuberculosis. Twenty years before his death he had received a blow fracturing the frontal bone, but recovered perfectly, and was able to return to his work in eight weeks. Upon removing the skull a mass was seen beneath the dura mater, covering and pressing upon the greater part of one side of the cerebrum, involving the face and mouth centres. It was interesting that such an extensive meningeal hemorrhage could have occurred, becoming encysted and organized without exciting any symptoms of a permanent nature.

Thrombosis of the Cerebral Sinuses.—A second specimen was one removed from the body of a woman who had been under treatment for what was supposed to be acute mania. But little was known of the woman's previous history, further than that she had been addicted to the immoderate use of alcohol. The symptoms were the ordinary ones of acute mania, except that there had been no rise of temperature before death, as is so common in these cases. Upon autopsy all the organs were found to be normal, with the exception of the heart. The walls of the right ventricle were rather thin, though the speaker was not certain that this was a pathological condition. The pulse had been found to be somewhat intermittent and feeble toward the end of the patient's life. In the brain a thrombosis was found, involving almost all the sinuses and also of the veins entering into the brain. This thrombosis was undoubtedly of ante-mortem formation. The finding of this very extensive thrombosis in connection with symptoms of acute mania was interesting, as Dr. Fisher did not know of any signs by which the presence of this intra-cranial condition could be diagnosed. The speaker doubted whether the woman had acute mania, but believed that the symptoms were caused by an interference with the return circulation from the brain.

Dr. Northrup has seen two cases of thrombosis of the longitudinal sinus occurring in children. In one of the cases the mother of the infant was suffering from puerperal fever. In both cases the circulation was very weak.

Dr. Loomis said that it was not uncommon to find thrombosis of the longitudinal sinus, and he had never attached any special significance to the condition. They are usually considered to be ante-mortem in their occurrence, being formed just before death.

Dr. Fisher said that the autopsy in this case was witnessed by several persons, and all regarded the thrombosis as having occurred some time previous to death. In this instance the mania would be accounted for by the lesions found post mortem, but he did not believe that it would have been possible to diagnose the condition before death. The post-mortem findings in acute mania were not usually satisfactory, and there was nothing which could be called characteristic of the disease.

Dr. Loomis said that he had been called upon some time ago to make a very careful examination in a case of acute mania, and he had found absolutely nothing except capillary congestion.

Perforating Typhoid Ulcer.—Dr. John S. Ely presented a specimen, for which he was indebted to Dr. J.

S. Thacher, removed from the body of a boy nineteen years of age. He was admitted to St. Luke's Hospital on December 28, 1889, complaining of symptoms pointing to typhoid fever. From that time his disease ran the regular course of a mild case of typhoid fever, the temperature reaching a maximum on the sixteenth day, and coming down to normal on the twenty-fifth. The next day it began again to rise regularly, and in four days reached 105° F., when it became evident that he had a relapse. Ten days the temperature rose with a chill to 105° F. in the morning, and then rapidly fell to 102° F., the patient evincing much shock. Tympanites, and tenderness, pain in the abdomen, repeated vomiting, thoracic respiration, and disappearance of dulness over the liver, all rapidly developed. These symptoms continued for two days, when the temperature rose to 107° F., and the patient died of exhaustion.

At the autopsy typhoid ulcers were found in the ileum, one of which, situated about a foot above the ileo-cæcal valve, was found to have perforated and given rise to a general peritonitis.

Peritonitis, occurring as a complication of typhoid fever, Dr. Ely said, is of one of two varieties : it may occur as a result of perforation of the gut, as in the present instance, or independently of any such perforation. The source of the latter, the so-called idiopathic complicating peritonitis, has given rise to much speculation. A study of the complications of typhoid fever has shown that many of them are caused by the typhoid bacillus. Thus the bacillus has been found by various observers in the following diseases, complicating this affection : lobar pneumonia, orchitis, abscess of the leg, periostitis, nephritis, empyema. Finally A. Fränkel reported a case of typhoid fever in which two attacks of localized peritonitis occurred as complication and sequela, with the subsequent formation of an abscess in the pus, from which no other microorganism than the typhoid bacillus could be found either morphologically or by cultivation. All this suggests strongly the possibility that in certain cases the peritonitis complicating typhoid fever may be caused by the typhoid bacillus. We should naturally expect this to occur in a much larger proportion of cases of peritonitis without perforation than of cases with perforation, since the latter condition permits of the escape into the peritoneal cavity of so many other inflammation-producing agents (most of them more rapidly acting) from the interior of the gut. In view of the possibility of the typhoid bacillus setting up purulent inflammation, search was made for it in the present case both in the ulcerated Peyer's patches and in the peritoneal exudate, but, unfortunately, sufficient time had elapsed after death for putrefaction bacteria to invade the tissues in large numbers, and the question as to the etiology of the peritonitis must therefore be left uncertain. The late occurrence of the perforation, on the thirty-ninth day, and its happening in the course of a relapse, are interesting features of the present case.

Intussusception of the Ileum in an Adult.—Dr. H. S. Stearns presented a specimen removed from the body of a woman, twenty-seven years of age. She was pregnant, and entered hospital January 29th, complaining of pains in the abdomen, but these ceased later in the day. She had a persistent cough, and two days after admission a profuse diarrhœa set in. About three o'clock on the morning of February 3d she was delivered of a dead fœtus six or seven months old. Everything progressed favorably until ten o'clock that morning when the woman began to show signs of shock and failed rapidly in spite of active treatment, and died the same afternoon. During the entire time that the patient was in the hospital she had a weak and rapid pulse and a temperature of 101° F. At the autopsy there was found to be consolidation of the upper half of both lungs, due to miliary tuberculosis, and there were several tuberculous ulcers in the ileum and jejunum. An intussusception was found in the ileum about eight inches above the ileo-cæcal valve. The invagination proceeded from below upward, about four inches of the gut being involved. There was complete occlusion.

A New Bacillus Found in the Air.—Dr. J. M. Byron presented some cultures of a new bacillus which he had discovered. The bacillus gave a red culture in all media. Spectroscopic examination gave one broad line between E and D, and another very far over toward the violet.

Dr. Charles N. Dowd reported the results of a number of examinations of the blood in influenza. Klebs found a number of mobile bodies in the blood of influenza patients, but the speaker had examined several cases very carefully and had not been able to detect the presence of these monads. The cases were mild ones, and the blood was dried before it could be examined. In Klebs' cases the blood was still fluid.

The Society then went into executive session.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 30 to April 5, 1890.

By direction of the Secretary of War, a board of medical officers, to consist of Colonel Edward P. Vollum, Surgeon ; Major George M. Sternberg, Surgeon ; Major Henry McElderry, Surgeon; Captain John J. Cochran, Assistant Surgeon, is constituted to meet in New York City, on April 28, 1890, or as soon thereafter as practicable, for the examination of Assistant Surgeons for promotion, and of candidates for admission into the Medical Corps of the Army. The Board will be governed in its proceedings by such instructions as it may receive from the Surgeon-General. S. O. 78, Par. 6, A. G. O., April 3, 1890.

Mason, Charles F., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, he is granted leave of absence for two months, to take effect on or about April 15, 1890. Par. 3, S. O. 76, A. G. O., Washington, D. C., April 1, 1890.

Taylor, Marcus E., Captain and Assistant Surgeon. The leave of absence for one month granted him by Par. 3, S. O. 26 c. s., Headquarters Department of the Columbia, is hereby extended one month, on surgeon's certificate of disability. Par. 1, S. O. 19, Division of the Pacific, March 27, 1890.

Skinner, J. O., Captain and Assistant Surgeon, Fort Ontario, N. Y. Leave of absence for one month is hereby granted him, the leave to commence forthwith as his services may be required with troops to change station early in May. Par. 5, S. O. 75, Division of the Atlantic, April 2, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending April 4, 1890.

Ferebee, N. McP., Surgeon. Ordered to the Essex.

Anderson, Frank, Passed Assistant Surgeon. Detached from the Dolphin and ordered home.

Griffith, S. H., Passed Assistant Surgeon. Detached from Museum of Hygiene and ordered to the Dolphin.

Heffenger, A. C., Passed Assistant Surgeon. Ordered to temporary duty at Navy Yard, Portsmouth, N. H.

Simons, Manly H., Surgeon. Ordered to superintend repairs at Widow's Island Hospital, in addition to present duties.

Sulphonal is recommended for chorea by Dr. A. John Jeffreis, of Boston (*Medical News*). He gives it in about five-grain doses.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 5, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	8	3
Scarlet fever	73	14
Cerebro-spinal meningitis	1	4
Measles	249	13
Diphtheria	94	28
Small-pox	0	0
Varicella	9	0
Cholera	0	0

A New Form of Surgical Dressing.—M. Roux, of Paris, proposes to abolish the ordinary method of dressings, which he regards as useless and troublesome, and to substitute a modified form of dressings. He has employed two methods with very good results, the *pansement suturé* and the *suture pansement*, both dressings being made with gauze saturated with sublimate, and again steeped in sublimate at 1 per 1,000. The *pansement suturé*, which is applied exclusively to wounds which are not drained, consists of a band of iodoform gauze covering the suture line, and one or more bands saturated with corrosive sublimate or compresses. The last of these is fixed to the skin by a stitch at each corner. These dressings, which are easily applied, allow the regions surrounding the wound to be watched. If necessary, they are wetted again with the solution at 1 per 1,000 after a day or two. The *suture pansement*, employed for wounds which close by the first intention only, consists of a double band of iodoform gauze, from two to two and one-half centimetres wide, which is placed on the exterior edge of each lip of the wound, and enclosed in the cutaneous suture. The operator begins with a knotted stitch, and unites the basis of the adjusted fragments by passing the needle through a small india-rubber tube between each stitch. When he has reached the end of the wound he returns backward, adjusting the edges of skin in making them overlap. The thread is tied with the tail which remained free at the starting-point. In order to remove this dressing the band is raised by one of the corners, and all the threads which are discovered on one side of the cicatrix are easily cut. In removing the other half the portions of threads which are inserted in the flesh are carried away. M. Roux considers that these dressings may be substituted with advantage for the ordinary method employed. But, as he allows that they can only be efficient when applied in localities and by persons absolutely free from microbes, it cannot be expected that they will entirely replace Lister's dressings in the present day.—*The British Medical Journal.*

A Legal Definition of Total Helplessness.—A bill has been introduced into the United States Senate defining "total helplessness" as applying to all persons who lost a leg or an arm at or so near the joint that an artificial limb cannot be used, and granting all such persons a pension of $72 per month.

A Curious Story is reported from Paris (*Medical Press*), showing the difficulties and ambitions of a medical man: A young man of very humble origin worked his way up by perseverance to a certain education, and finally was able to take out the diploma of *officier de santé*. After two or three years' practice his ambition led him to desire the *doctorat*, but to obtain the higher degree he would be obliged to pass the preliminary examination equivalent to our B.A. He had a bosom friend who was a "grinder" for this examination and who had enabled many others to pass. This friend offered to represent the *officier de santé* out of pure friendship and with otherwise the most disinterested motives. Accordingly he left Paris and presented himself at Lyons, where he thought detection would be impossible. However, not only was his answering extraordinarily good, so as to arouse suspicion, but ill luck would have it that two of the examiners were formerly his own pupils! The trial took place, as already said, last week, and although the prosecution demanded two years of prison, the jury took a very lenient aspect of the case and acquitted them both.

The Itch in Paris.—The French metropolis is great in many things, and it leads the world in the matter of *acari*. The number of cases of itch at one hospital, the St. Louis, in 1878, was 3,809; in 1886 it was 5,987. "These figures," says M. Fournier, "are eloquent," in which we agree with him; but he adds, "they need no comment;" and here we must differ with him, for it seems to inhabitants of this modest and provincial metropolis, where habits of cleanliness are still held in high esteem, that a great deal of comment is needed.

Virchow has made an attack upon the word "luetic." It was, he says, "originally a Leipzig discovery, but it has developed to the rank of a Germanism. It is etymologically incorrect. Lues is a Latin word through the Greek, and means pestilence, not syphilis, and "luetic" cannot by any possible twisting be properly derived from it. Still it is convenient and euphemistic, and enables the physician to refer to syphilis without alarming the patient.

The Doctor was in Luck.—A patient in Warsaw, not long ago found himself unable to pay his doctor's bill, and offered a lottery ticket in exchange in full. The doctor made the best of a bad bargain and accepted the ticket, and has now received his reward in the shape of a prize of $40,000 which the ticket has just drawn. There is no special moral to this story that we have been able to discover.

Cheap Practice in Russia.—A medical club has recently been organized in Tiflis, Russia. It consists of 125 families, 25 of whom are treated gratuitously. The remaining 100 pay each one rouble (fifty cents) a month to the physician of the club, who thus receives about $600 per annum for his services. In addition to caring for the members when sick this obliging, or needy, doctor has agreed to visit each of the families regularly, to inspect their dwellings, and to advise them from time to time in regard to their mode of living. He is also to deliver a certain number of lectures to the members of the club on matters relating to physiology and hygiene. Competition in Tiflis must be active, or else living must be very cheap.

They Starved the Visitors.—Not long since a committee of the Washington legislature made a trip to an asylum in the State. They were received very politely and treated with much courtesy, but the food that was served out to them during their stay was of the poorest quality and very meagre in quantity. It was made to appear that the appropriation for the support of the asylum was insufficient, and that consequently there was no means of getting anything good for the entertainment of the visitors, and it was hoped that the prayer for greater liberality would meet with a gracious approval from the men who had suffered so much from the poverty of the institution. Unfortunately, however, some of the committee were of an inquiring mind, and went quietly by themselves to inspect the condition of the larder and found it well filled with good things to eat. In the asylum bill which the legislature passed at the suggestion of the committee, the salary of the superintendent was cut down $250. This is the sad tale as related by the *Post-Intelligencer*, of Seattle, and if it is true the superintendent has our deepest sympathy.

Medical Politicians.—The French Chamber of Deputies contains forty-eight physicians, one veterinary surgeon, and one dentist.

A New Way to Collect Bills.—A Kentucky doctor is suing a man for medical attendance on his wife during her final illness. There is nothing very unusual in this, but some of the evidence offered is peculiar. It consists of a bundle of letters which the doctor alleges the deceased woman wrote to her husband from the other world, acknowledging the obligation and urging her husband to overcome his meanness and dishonesty for once and pay the just debt.

Paradoxical Pupil-Reaction.—At a recent meeting of the Gesellschaft der Charité-Aerzte, Herr Henoch brought forward a patient with a peculiar anomaly of the left eye, which had previously been operated upon; namely, dilatation of the pupil on exposure to light, and contraction in the dark. The same dilatation of the left eye occurred when the right eye was illuminated, and the same contraction when the right eye was then darkened. The patient was a man who was admitted in 1888 into the new Charité Hospital on account of some syphilitic plastic iritis. There was much exudation into the anterior chamber, the tension of the eye reached a high degree, the pupil being quite closed, so that permanent blindness from secondary glaucoma was feared, and iridectomy was necessitated. Severe hemorrhage resulted on incision, and the operator introduced the iris forceps but could not be certain about what was exactly done, the parts being hid from view. By next morning absorption was rapidly proceeding and a very satisfactory coloboma had arisen. The case went on very favorably, and the patient was dismissed with a visual acuity of one-eighth. Next year he attended again with tertiary symptoms, when the above phenomenon was observed. The simple explanation is that by the operation the sphincter iridis was completely cut through inferiorly. The sphincter contracts together as usual when illuminated, but this now causes a wide gap inferiorly, having the appearance of pupillary dilatation. —*British Medical Journal.*

Widening the Field of Woman's Usefulness.—Quite recently, the *Hospital Gazette* states, a man applied to the house surgeon of a London hospital to have a large hydrocele tapped. He stated that he had had the operation performed at another hospital, but the last time he applied there a young woman operated on him. He had no fault to find as to the way it was done, but he objected to exposing his infirmities to a class of ladies.

A Welsh Medical School.—An effort is being made to establish a medical school at Cardiff in connection with the University of South Wales and Monmouthshire.

Death following a Urethral Injection of Cocaine.—Simes, in a recent number of the *Gaz. degli Ospitali*, records a somewhat remarkable case of death occurring after an injection of cocaine into the urethra. The patient was a man of twenty-eight years of age, and preparatory to undergoing the operation of internal urethrotomy, had a grainme of a twenty per cent. solution of cocaine injected into his urethra. Saving his urethral stricture, the patient was in excellent health. Immediately after the injection the following phenomena supervened, namely, contraction of the muscles of the face, dilatation of the pupils, stoppage of the breathing, and violent epileptiform convulsions. The convulsive signs continued to increase in severity, the respiration became more and more feeble, cyanosis became intense, and at the end of about twenty minutes, despite every care, the patient died. At the autopsy the lungs were normal, but extremely congested; the left ventricle contained no blood.—*The Medical Press.*

No Irish Need Apply.—The London hospitals, in their recent advertisements for internes, have in many instances added the condition that the applicant must be a fellow or member of the Royal College of Physicians or of Surgeons, thus barring out the Irish and Scotch graduates. The latter are, as may be imagined, somewhat indignant.

The Utility of Vaccination.—The deaths from smallpox in Germany during the years 1887–88, were 1.8 and 0.8 per million respectively; in Austria, for the same years the deaths were 583.7 and 540.4. In Germany, vaccination is compulsory, in Austria it is not.

Suspension in the Treatment of Diseases of the Spinal Cord was first employed by Mochutkovski, of Odessa, in 1883.

Prevention of Nicotine Intoxication.—M. Gautrelet has contrived an arrangement of the tobacco-pipe by which the smoke is filtered through cotton-wool charged with pyrogallic acid, which does not affect the flavor of the tobacco, but neutralizes the usual unpleasant effects. —*Provincial Medical Journal.*

Wood as a Source of Human Food.—In an address at Heidelberg by Victor Meyer, it is announced "that we may reasonably hope that chemistry will teach us to make the fibre of wood a source of human food." What an enormous stock of food, then, will be found, if this becomes possible, in the wood of our forests or even in grass and straw! The fibre of wood consists essentially of cellulin, $C_6H_{10}O_5$. Can this be made to change into starch? Starch has exactly the same percentage composition, but, as everyone knows, it differs very much in its properties, and the nature of its molecule is probably much more complex. Cellulin is of little or no dietetic value, and it is not altered, like starch, in boiling water. It readily gives glucose when treated with strong sulphuric acid, as is easily shown when cotton-wool, which is practically pure cellulin, is merely immersed in it Starch gives the same product when boiled with weak acid. The author further quotes the researches of Hellreigel, which go to show beyond dispute that certain plants transform atmospheric nitrogen into albumin, and that this process can be improved by suitable treatment. The production, therefore, of starch from cellulin, together with the enforced increase of albumin in plants, would, he adds, in reality signify the abolition of the bread question. It must be borne in mind, however, that theory, fascinating and promising though it may be, is not always capable of being followed up by a practical result.—*The Lancet.*

Suicides in Berlin.—During the month of January there were seventy-five suicides (fifty-three men, twelve women, and ten children) in Berlin. This is said to be the largest number ever reported there during a single month.

Physicians in Japan.—It is stated, on what authority we do not know, that there are 40,321 physicians in the Empire of Japan. The population of the country is put down at about 40,000,000.

Ringing to Grog.—In olden time in Portland, Me., everybody took a drink about eleven o'clock, and that none might forget to do so the town ordered the ringing of the bell at that hour.

It Beats a Horse-chestnut.—A reporter of the Boston *Record* says that he met an old friend of his who used to be crippled with rheumatism. Upon expressing surprise at seeing him so well and free from pain, the man replied that his cure was due to his carrying an old electric light carbon which one of the lamp men had thrown into the street. He claimed that there was enough electricity left in the old carbon to "knock the rheumatiz higher'n a kite."

Life Insurance Examinations.—One of the London life insurance companies has given up medical examinations, and insures the applicant on his own certificate of health, the sole condition being that the amount of the policy shall not be paid if the insured dies within five years. In that case his heirs receive only the amount that has been paid out in premiums with interest.

The Use of Narcotics by Women.—Dr. Norman Kerr writes as follows in *Woman*, upon the constantly increasing use of narcotics by women: Alcohol is the narcotic most frequently used. But I could give you a formidable list of narcotics which women in all ranks of society are daily using: Chloral, chlorodyne, ether, chloroform (less used by women here than in America), sal volatile, eau de Cologne, and so on. I have known ladies addicted to alcohol drink three bottles of brandy a day. A bottle a day is by no means an uncommon quantity. I have had patients who had habituated themselves to two ounces (960 grains) of chloral as their daily allowance. Twenty grains of chloral, I may say, is a full medicinal dose. I have treated patients who have been in the habit of swallowing eight ounces of chlorodyne a day; and I have known ladies who could take a pint of chlorodyne in the twenty-four hours. Both tea and coffee are used in excess. I found a patient insensible in her room one day who had drank nothing but tea. But she had consumed a pound of tea in the day. Tobacco, in the form of cigars as well as of cigarettes, is constantly resorted to. Thirty cigarettes a day has been the allowance of some of my patients.

The Death of an Old Woman.—There died recently in Vienna a woman who was commonly reputed to be over one hundred and fourteen years of age. Her name was Magdalena Panza, and she had a daughter aged seventy-four still living, six other children which had been born to her having died. She had never been seriously ill until her hundredth year, at which time she had a severe fall and sustained some injuries, from which, however, she promptly recovered.

The Size of French Families.—A law was passed not long ago in France, giving certain privileges to the fathers of more than seven children. An inquiry having been made to determine who were to benefit by the provisions of the law, it was found, according to *Lyon Médical*, that in France at present there are 2,000,000 households in which there has been no child; 2,500,000 in which there was one child; 2,300,000, two children; 1,500,000, three; about 1,000,000, four; 550,000, five; 330,000, six, and 200,000 seven or more.

The Czar again Accused.—The Czar of Russia must be in a bad way if all that is said of him is true. It has been reported that he is a profligate of the worst type, a confirmed drunkard, an irresponsible lunatic, and now comes the statement from a French paper that he is a morphine fiend, using about fifteen grains of the drug by hypodermic injection every day.

The Physician not his own Druggist.—A bill has been introduced into the Ohio legislature forbidding a physician from administering any medicine whatever to his patients except in case of emergency. We hope that it is accompanied by another bill forbidding counter-prescribing by pharmacists.

Of Interest to Volapükists.—Dr. Mies, of Bonn, Germany, proposes to publish, in Volapük, an article on the size and weight of new-born children, and he requests all who may possess any information on this subject, to send it to him, and in return he will express his grateful appreciation in the choicest and most classical Volapük.

Dr. T. T. Slaughter, of Madison County, Va., now in his eighty-sixth year, has practised medicine for over sixty years, having taken his degree from the University of Pennsylvania, in 1825.

Danger in the Kid Glove.—A lady in Vienna was poisoned not long ago by a new pair of kid gloves which she had worn to a ball. It was ascertained that the skin was obtained from an animal that had died of the rinderpest.

The Cookery of the Poor.—A faculty of social science has, it is stated, been instituted at the University of Brussels, and Professor Berger, a Belgian authority in chemistry, has given a course of lectures on alimentary chemistry. In the first of them he came to the academic conclusion that it was possible to determine with precision the quantity of nutritive elements indispensable for the reparation of the power of a working man, and consequently the amount of money necessary for purchasing this quantity, and that, therefore, when the other primary wants of a working man were determined in the same way, the minimum of salary could be fixed with scientific accuracy. Questions of taste, digestibility, and prejudice are, however, apt to be ignored in calculations of this kind; so that, although of value as a basis of information, they are far from having the practical use which their authors ascribe to them. The knowledge of the housewife and of the cook, and a familiar acquaintance with the habits and surroundings and tastes of the laboring classes, are necessary to give reality to such calculations. An excellent example of what may be done in this way is furnished in the able and interesting chapters on the subject in the popular little handbook of domestic economy issued by Messrs. Cassell & Co., and largely used in board schools, entitled "The Making of the Home," written by Mrs. Barnett, of St. Jude's, Whitechapel. The same subject is treated with great technical knowledge and power of sympathetic feeling for the poor in her chapter on "Our National Defences," in the joint essays by herself and the Rev. S. A. Barnett, in the well-known collection of essays entitled "Practicable Socialism." The subject is one in which medical men, skilled as they are in the physiology of food, and accustomed to deal with the poor both in family life and in public institutions, might give great aid. That which our working classes greatly need is instruction in the art of braising, or slowly stewing at a low heat, combinations of meat scraps and of vegetables. Anything more toothsome and nutritious than the vintagers' *pot au feu*, which I lately tasted in the Medoc during the gathering of the grapes, cannot well be imagined. It was so delicious that a supply of it was ordered into the Château for midday lunch, and it was voted by acclamation worthy of a *cordon bleu*. It was made with leg of beef, onions, carrots, cabbage, and the like, and poured smoking into bowls over slices of thin bread. What a lesson it conveyed to our managers of soup-kitchens, and what a meal for our harvesters!—*The British Medical Journal.*

Primary Tubercular Disease of the Eye.—Like all comparatively rare diseases, cases of primary intraocular tubercle may give rise to considerable doubt in the minds of those under whose care they are, both as regards diagnosis and treatment. In certain instances it is next to impossible to distinguish between tubercular and syphilitic nodular iritis; yet in reference to the adoption of active treatment a correct diagnosis is all important. Such doubtful cases have been described on several occasions as granuloma of the iris, a name which is said by some authors to signify that the disease is of syphilitic origin, while others hold that it is tubercular. At the best it probably means that our knowledge of such cases is not yet complete. The doubts which arise regarding treatment chiefly concern operative measures. If the disease be tubercular, should the eye be excised, in the hope of removing a centre of infection, and thus preventing general tuberculosis? If syphilitic in nature, active antisyphilitic treatment is indicated, and these measures would but doubtfully conduce to the cure of tubercle. The records of cases seem to point to enucleation as the best treatment for primary intraocular tubercle; on the other hand, in a certain number of cases recovery has ensued from disease which had all the clinical characters of tubercular iritis. One point seems fairly well established, viz., that if any operation is undertaken it should be removal of the entire globe; iridectomy, performed with the intention of removing the diseased portion of iris, has been almost uniformly unsuccessful.—*The British Medical Journal.*

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Original Articles.

THE RELATION OF ERRORS OF REFRACTION AND INSUFFICIENCY OF THE OCULAR MUSCLES TO FUNCTIONAL DISEASES OF THE NERVOUS SYSTEM.[1]

By D. B. ST. JOHN ROOSA, M.D., LL.D.,

PROFESSOR OF DISEASES OF THE EYE AND EAR IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL; SURGEON TO THE MANHATTAN EYE AND EAR HOSPITAL.

About thirty-three years ago, when Donders began to make known in Graefe's *Archives* his great discovery, the fruit of some years of labor in the light of the ophthalmoscope, that asthenopia was chiefly the result of an error of refraction whose nature he had himself clearly demonstrated, he found the medical profession engaged in proving that it was due to defective action of the external muscles of the eye. It was then taught by the highest authorities, that the cause of asthenopia was to be sought in a spasmodic contraction of some of the ocular muscles. There were practitioners, as Donders remarked, who had the courage to divide these muscles for asthenopia, and he proceeds to say, that this is a melancholy page in the history of operative surgery.[2] But these practitioners are to be forgiven; they had gone as far as our knowledge of physiology would allow. The source of the accommodation of the eye for vision at different distances, had not then been discovered, nor had its mechanism been explained. The retina, however, had been abandoned as the *fons et origo mali*, and we were nearing a solution, when the ills of asthenopia were ascribed to muscular action and not to the retina, even if the wrong muscles were attacked.

Any proper discussion of so-called ocular reflexes, resulting from strain of the eye, must begin with a definition of asthenopia. Perhaps that of Donders is the best.

"The eye has a perfectly normal appearance, its movements are undisturbed. The convergence of the visual lines presents no difficulty. The power of vision is usually acute, and nevertheless in reading, writing or other close work, especially by artificial light, or in gloomy places, the objects after a short time become indistinct and confused, and a feeling of tension comes on, especially above the eyes, necessitating the suspension of work. The person so affected now often involuntarily closes his eyes, and rubs his hands over the forehead and eyelids. After some moments' rest he once more sees distinctly, but the same phenomena are again developed more rapidly than before. The longer the rest has lasted, the longer can he now continue his work."[3]

But Donders went no further than to say that the asthenopia thus described, depended upon one of two causes: either upon a short eyeball, hypermetropia; or upon some constitutional disturbance, such as occurs in a marked way in paralysis from diphtheria, and prevents the use of the muscles of accommodation. This latter form, has been often confounded with that which Donders said was caused by hypermetropia. It may exist coincidentally with hypermetropia, usually of a low degree, or with weakness of ocular muscles, and it is an accommodative asthenopia. But an error of refraction is not at all the cause of it. Exhaustion of the nervous system, hereditary or acquired, from various sources, is at the bottom of this kind of asthenopia. It often depends upon incurable general conditions. But true accommodative asthenopia is curable by means of correcting glasses. The former variety is sometimes called American asthenopia. It is more common in our country than in France, perhaps than in Germany and England. At least one Frenchman thinks it is more frequent in New York than in Paris, because New York men and women are not so well nourished by good and well-cooked food and sound red wine, as are the corresponding class in Paris. I am not prepared to dispute this opinion.

It is important to bear in mind this distinction between accommodative asthenopia occurring in neurasthenics, women with uterine disease, malarial subjects, those recovering from typhoid fever, and so forth, who, at the same time, like the rest of the world, have slight refractive errors and insufficiencies, and pure accommodative asthenopia in healthy subjects, caused either by high degrees of hypermetropia, astigmatism of even moderate degree, great weakness of the internal recti, unequal refraction of the two eyes, or the like.

Although Donders was the discoverer of the nature and the cause of asthenopia, he had no idea of its frequency. While he recognized the fact that headaches, melancholy sensations, and a long train of evil symptoms might result from asthenopia, he did not know how frequently these symptoms were caused by ocular fatigue. In his time the public were somewhat discouraged in getting medical aid for the relief of these symptoms, and readily gave up the use of their eyes for near work, and turned to agriculture or idleness, as a palliative for what could not be cured.

Donders found in a shortened eyeball the chief cause for asthenopia; as he says, "hypermetropia is usually at the bottom of asthenopia." If he had known as much of the effects of astigmatism as he and Knapp had shown us of its nature, he would have said hypermetropia *and* astigmatism.

At this very time, Graefe was in the midst of his investigations of muscular asthenopia. Donders was careful to describe muscular asthenopia also. He believed that it depended chiefly on insufficiency of the internal recti muscles. Up to this day Donders's classification has been pretty generally accepted, and all writers speak of accommodative and muscular asthenopia. But Donders underrated the importance of astigmatism in producing asthenopia, and, scientific and wise as he was, he was so overshadowed by the great genius and authority of the pioneer in modern ophthalmology, Graefe, that he laid undue stress upon muscular asthenopia, although his work removed a great deal of what I believe was not only then, but is now, a fictitious importance ascribed to this latter condition. Even then, he calls attention in an uncertain way to the important fact that errors of refraction were practically fixed conditions, while muscular insufficiency must be as variable in the eyeball as in the leg or hand. But Donders's work stopped much of the cutting of external ocular muscles and narrowed the field of muscular asthenopia. In reading the work of the great Dutch physiologist in the light of subsequent years, it seems as if his courtesy restrained him from speaking his full mind about the *ignis fatuus* of asthenopia dependent upon insufficiencies of ocular muscles. Graefe admitted at a very early stage, that the combined action of the recti interni for accommodation for the near point is extremely different under physiological conditions in different persons. He might have added in the same person.[1]

[1] Read before the New York Academy of Medicine, March 20, 1890.
[2] On the Anomalies of Refraction and Accommodation, p. 272.
[3] Loc. cit., p. 259.

[1] Archiv., B. iii., Ab. 1, p. 308.

Matters as to asthenopia, both in the old and new world, rested for a number of years about where Donders left them. Although he speaks of gloomy feelings being changed to those of hope and exuberance, in consequence of a relief from asthenopia by wearing glasses, and adduces several graphic cases of this kind, he did not fully appreciate the great relief that the practice of ophthalmology in the light of his discovery of the nature of hypermetropia and astigmatism, was to bring to thousands upon thousands of suffering men and women, much less did he dream that the origin of nearly every form of disease of the nervous system was to be found in an error of refraction or an insufficiency of ocular muscles. It was reserved for America to claim that not only asthenopic affections were due to errors of refraction and accommodation and muscular insufficiencies, but, to quote the exact words of the author, "difficulties attending the functions of accommodating and of adjusting the eyes in the act of vision, or irritations arising from the nerves involved in the processes, are among the most prolific sources of nervous disturbances, and more frequently than other conditions constitute a neuropathic tendency." [1]

But the definition of asthenopia became more comprehensive, the resulting headaches and twitching of the lids were more fully described and recognized by ophthalmologists everywhere. Blepharitis and styes and tarsal tumors, were added to the list of these consequences.[2] But until about 1874 the evil consequences of uncorrected errors of refraction, were supposed to be limited to the area directly in connection with the eyeball. There was no claim that asthenopia, except by mental depression, extended beyond this region in its evil effects.

At first it was claimed that chorea as well as epilepsy, although sometimes dependent upon organic lesions, were generally functional nervous affections, under which head they are classed. And even now Dr. Stevens says:

"The anatomical lesions of the brain or of the cord are sometimes coincident with chronic chorea it is true, but that there is necessary or causative relation between the two conditions has not yet been shown. Indeed, it is much more probable that the anatomical lesions of the brain and cord are among the results of chorea, or of the irritation causing it, and that they are not in any respect the original sources of irritation." [3]

Of late this claim has been somewhat modified, and great pains is now taken to state that, when epilepsy and chorea are mentioned, there must be careful discrimination between functional and organic chorea and epilepsy,[4] and that only the former are proper subjects for operation. In the early papers we hear very little, if anything, of the differences between chorea and epilepsy dependent upon organic causes, and the functional forms. Dr. A. L. Ranney, who is well known as a disciple of the promulgator of the doctrine of the ocular origin of nervous disease, even now speaks of chorea as always a functional nervous disturbance. He says that it is doubtful to his mind, if any changes exist in the brain or spinal cord with chorea.[5] The same author admits that epilepsy may have an organic cause. But it is apparent that he believes that this is exceptionally true and that epilepsy is also a functional disease.[6]

When chorea, epilepsy, and insanity were all classed under the head of functional nervous disease, it was at first claimed that hypermetropia was the chief influence in the production of these functional nervous diseases. It was then deemed sufficient to correct the hypermetropia or the astigmatism. In a paper read before this Academy,[7] it is plainly stated by Dr. Stevens, that "chorea is a functional disturbance of the nervous system, which may give rise to organic lesions, and which arises from irritation dependent upon anomalous refraction of the eye, and in a very large proportion of cases to hypermetropia." But of late years, say from 1886 or 1887, the muscles are said to play the chief part in causing the functional diseases, and operations upon them are necessary for the cure. A new nomenclature has been promulgated for the purpose of defining muscular insufficiencies, and operations upon these muscles have largely supplemented or taken the place of the correction of errors of refraction. Thus we have returned in a circle to the position in which Donders found Graefe, and the ophthalmologists preceding him. Asthenopia, from which nervous diseases of all kinds are now said to result, is chiefly dependent upon muscular insufficiencies and is generally to be relieved by operations upon these muscles.

It now becomes necessary to make rather a long quotation, in order to show what is claimed will follow from an adoption of the general principle, that functional nervous diseases depend chiefly upon faulty action of the eye.

"I think it not unreasonable to look for the future advance in medical practice along two great lines. That advance along one of these lines was begun when Jenner, recognizing the fact that the human subject may be made sterile to the development of certain organisms when once it has been preoccupied by the presence of the same or a similar class of organisms, introduced vaccination as a preventive of one of the greatest scourges of the race. In our day an army of investigators, well trained and well equipped, is exploring the realms of the minute in search of the micro-organisms which, in their invasions in swarming myriads within the human body, threaten to destroy it by their devastations. It is not impossible that against the inroads of the various organisms whose incursions constitute typhoid and typhus, scarlet fever and measles, cholera and yellow fever, barriers may be erected which shall in large measure protect against the class of maladies which now destroys so large a proportion of the population of the world. The advances which have already been made along that line are, doubtless, but the earnest of that which is to come.

"Along the other line we may look for as great achievements. The class of maladies which has been during all time relegated to the tender mercies of fetichism and superstitious notions of cures by drugs having no relations to the origin or the nature of the disorders themselves, will ere long be regarded as irregular phenomena resulting from well-defined causes of irritation, which causes must be sought for principally in the direction of difficulties in the performance of necessary functions. With the removal of such difficulties we may look with confident expectation to the cessation of the peculiar irregularity which constitutes the special form of nervous disease. Through such means we may reasonably expect that the great class of functional nervous troubles, of which epilepsy and insanity, neuralgia and hysteria may be regarded as representatives, will be nearly as effectually guarded against as is small-pox by vaccination." [1]

The quotation just made, is an extract from the paper that led to the formation of a commission of experts, to investigate the subject of the cure of nervous diseases by glasses and tenotomies.

It was supposed at one time by some of the writers who have discussed this subject in the medical journals, that insufficiencies of the ocular muscles, except of the interni, were never discussed until the discoveries of 1876 and 1880; but reference to the writings of Graefe [2] the nephew, Loring, and others, show that this was incorrect, and that even latent insufficiencies of all the muscles, were recognized years before this.

It was Alfred Graefe also who clearly laid down the rule,

[1] Functional Nervous Diseases, George T. Stevens, M.D., 1887, p. 21.
[2] Roosa: Transactions International Congress of Ophthalmology. 1876. [3] Loc. cit., p. 88.
[4] Journal of Nervous and Mental Diseases, November, December, 1889.
[5] Lectures on Nervous Diseases, p. 494.
[6] Loc. cit., 474 et seq.
[7] Transactions of the New York Academy of Medicine, vol. ii., p. 440.

[1] Stevens: New York Medical Journal, p. 428, vol. 45, April 16, 1887.
[2] Saemisch: Handbuch, Band vi., 4. Theil, p. 216.

lately so often ignored, that errors of refraction and accommodation should be corrected before noting muscular insufficiencies, and this for the simple reason that muscular insufficiencies are often caused by uncorrected errors of refraction.

These novel views as to the causation of functional nervous diseases, have now been subjected to years of very thorough investigation, accompanied, on this side of the water especially, with much acrimonious disputation. In Europe they have excited little attention. A learned commission has sat upon the whole subject, and, although its report is unanimous, and bears, on the whole, rather heavily against the value of the discovery of a great principle of cause and cure, it cannot be said to have closed the subject, for in the discussion that followed the report of the commission, one of its members seems not to be quite certain of the propriety of an adverse report. In his remarks he lays great stress upon the delicate instruments and manipulations which have characterized these curative operations, and he also said that "not being a neurologist, he did not feel competent to judge of the therapeutic effect of these operations."

From the editorial remarks of a journal conducted by another member of the commission, we may fairly conclude that he also did not fully agree with what was supposed to be a unanimous report. A leader in this journal says: "Now, what does this prove, and does it prove anything? It would seem to prove that Dr. Stevens's method is a therapeutic measure valuable as an adjunct, and that in certain cases where toxic medication is unwise, it constitutes one more means of alleviating suffering." [1]

The commission, however, unanimously expressed the opinion that the method of Dr. Stevens does not afford a sufficient degree of relief to patients suffering from chorea or epilepsy to warrant its adoption or recommendation to the Neurological Society, as a means of cure, or as the sole therapeutic measure." [2] In the debate that followed among the neurologists, there was a minority which did not fully agree with the report.

It is evident, that there is still such a state of unsettledness in the minds of quite a fraction of the medical profession upon this subject, as to justify further discussion. For this reason I have accepted the invitation of the President of the Academy, to present my views upon peripheric irritation as a cause of disease, especially with reference to irritations of the eye.

The basis of argument by which chorea and epilepsy were considered to be due to errors of refraction and accommodation, has, in my opinion, been long since shown to be entirely fallacious, although in the monograph upon this subject from which I have already quoted, great stress is laid upon these tables. The following is an example of one of them:

Of 118 cases of chorea,[3] 78 are said to have been hypermetropic; 13 had hypermetropic astigmatism; 5 had mixed astigmatism; 6 were myopic, and 11 had myopic astigmatism.

This table, and also the similar tables that are furnished with reference *to errors of refraction* in epilepsy and migraine, are of no more importance than if they stated that of one hundred and eighteen persons suffering from measles or a broken thigh, such a proportion were hypermetropic and so forth. It has been shown by myself,[4] by Ely,[5] in his "Examination of the Newly Born" (correcting the observations of Jaeger, who had supposed the infantile eye to be myopic), by Randall[6] and others, that only a very small proportion of adults or infants, say seven per cent., have absolutely emmetropic eyes. We did not know this when Donders made his discoveries, although Donders knew that a low degree of hypermetropia was exceedingly common, and he did not reckon such as likely to cause asthenopia. Indeed, he did not consider it to be an abnormal condition.

Stimulated by the claim made in 1876, which I have quoted, that functional diseases of the nervous system were due to hypermetropia more than to any other one cause, my investigations of adults who had never suffered from asthenopia and whose eyes were placed under the full influence of atropia, were first made in 1877. They were followed by others, and all agree in showing that, excluding the myopic, nearly all the world is hypermetropic. If all the world be myopic or hypermetropic, how can it be in reason claimed that these conditions in themselves cause the functional diseases of the nervous system? At least the advocates of such a doctrine would be obliged to admit that other causes must act in conjunction, with these deviations from an almost unknown normal standard, to produce any grave disease.

It was demonstrated by these papers, and by C. S. Bull, that people could be perfectly well and have all the errors of refraction and accommodation that were said to cause chorea and epilepsy. These tables of errors of refraction occurring in epilepsy and chorea were thus stripped of all their value, and the arguments resting upon them fell with them. Without fairly admitting this, the tables were still published, but the argument was now changed to meet the new facts confronting the new theory. In a paper read in 1880[1] attention was called to the fact, said to have been discovered in 1876, that insufficiencies of the straight muscles of the eye, by causing want of coordinate action, might cause nervous disturbance in the same manner as, or in conjunction with, refractive lesions. Then the formula was altered, and now functional nervous diseases are dependent upon anomalous conditions of the refraction and accommodation, *or upon imperfect action of the muscles of the organ*, "more than any other causes combined."

It seems to have been thus tacitly conceded, that errors of refraction alone, are not the chief source of functional nervous disease, but this was not said, although the argument was transferred to the muscles of the eye, to muscular insufficiencies. It is the doctrine that nervous disease is caused by these insufficiencies, and is relieved by ocular tenotomies that I now wish to combat.

Before I follow this doctrine of the dependence of neuroses upon want of ocular muscular equilibrium, to its legitimate ending by statistics showing how few people have such a muscular equilibrium, I will read the main outlines of a table which shows what people who come to an oculist for glasses actually suffer from, and how few of them have anything but accommodative asthenopia. Considering the assertion that, "more than all other causes combined," epilepsy, chorea, and other functional nervous diseases depend upon conditions of the eye, is it not remarkable that so few of them consult an ordinary oculist? These tables were prepared for me from my private case-books by Dr. Frank N. Lewis.

A table showing the symptoms complained of by patients, who came to have glasses fitted.

Asthenopia	1,445
Not seeing well in the distance	428
No history[2]	325
Blepharitis, styes, chalazia, etc.	265
Headaches	213
Not seeing well for near work	211
Glasses unsatisfactory	191
Conjunctival irritation, trachoma	178
Pain in the eyes	149
Diplopia	43
Muscæ	39
Lachrymation	31
Sent by a neurologist to learn the refraction	20
Dizziness	15
Twitching of the lids	11
Photophobia	5
Blur before one eye	5

[1] New York Medical Journal, November 30, 1889.
[2] Report, p. 32.
[3] Stevens: Functional Nervous Affections, p. 91.
[4] Transactions American Ophthalmological Society, 1878.
[5] Archives of Ophthalmology, vol. ix.
[6] American Journal of the Medical Sciences, July, 1885.

[1] Stevens: Transactions Medical Society, State of New York, 1880.
[2] Those having no history were chiefly cases of presbyopia or myopia, in which no asthenopia was complained of.

Chorea	3
Sudden loss of vision	3
Twitching of the muscles of the eye	2
Orbital neuralgia	1
Dilated pupil	1
Total number of refraction cases	3,584
Total number of patients examined	6,455

The refractive conditions actually found are shown in the following table:

	H.	M.	H. ast.	M. ast.	Mixed ast.	Refraction different in the two eyes.	Pr.	Muscular insufficiency.
Asthenopia	528	81	263	86	27	86	49	23
Not seeing well in the distance	35	166	42	104	26	20	..	..
No history	30	89	30	41	8	5	82	1
Blepharitis, styes, chalazia, etc.	111	19	53	11	3	12	3	..
Headaches	53	12	71	26	9	26	5	4
Not seeing well for near work	33	..	31	13	4	..	..	..
Glasses unsatisfactory	6	31	38	45	6	3	17	..
Conjunctival irritation and trachoma	95	21	24	11	2	..	17	..
Pain in the eyes	28	23	20	22	4	6	6	..
Diplopia	10	..	1	..	1	..	..	3
Muscæ	17	2	2	2	1	1	..	..
Lachrymation	12	2	6	1	..	..	6	1
Sent by neurologist	6	1	1	1	..	..	3	1
Dizziness	5	2	3	..	1	2	..	1
Twitching of the lids	2	1	3	1	..	..	..	..
Photophobia	1	2	1	..	..	..	..	..
Blur before one eye	2	..	1	1	..	..	..	..
Chorea	3	..	..	..	..	..	..	..
Sudden loss of vision	..	1	1	..	..	..	..	..
Twitching of the muscles of the eye	..	1	..	1	..	..	..	..
Orbital neuralgia	1	..	..	..	..	..	..	..
Dilated pupil	..	..	1	..	..	..	..	..

These patients came to me, not because they had general nervous disease, but because they had symptoms beginning plainly in the eye, or in its appendages or adjacent to them. There I think may be found a true guide in diagnosis. It will be remembered, that in accordance with the theory that the causes of chorea and epilepsy and so forth, are to be found in the ocular refraction or muscles, it is not necessary that the eye or its appendages should manifest any symptoms at all. The condition of the eye is to be revealed by skilled observations as to the refraction, and delicate tests as to muscular equilibrium. These causative conditions may be completely concealed until thus demonstrated. Patients who never knew that they had an ocular symptom, are told that all their troubles proceed from their accommodative and visual apparatus. This is not in accordance with the usual condition of things. A splinter in the tissue, a foreign body of any kind in any part of the body, whatever reflex disturbance it may give rise to, will usually give local symptoms also, and thus call attention to its origin. In this, I do not believe the eye, ear, nose, or throat are any exceptions. If we have actual reflex disturbances of the general system from the eye, besides those disturbances, asthenopia in one of its many forms will show itself. I do not believe that a refractive error or a want of muscular equilibrium that causes no local disturbance, will, except in highly exceptional cases, if ever, cause any constitutional affection.

It is not possible in such a paper as this, to give even the outlines of the individual cases that demonstrate in detail, and unanswerably, the failure of this theory to account for the origin of nervous diseases. If *falsus in uno, falsus in omnibus*, be good logic, every oculist's case-book will overthrow the doctrine of the ocular origin of nervous disease. Chorea has been entirely recovered from years before any correction of an error of refraction occurred. In other instances, one eye has never been used with the other, and yet most active careers, requiring most profound, patient, and exacting mental labor have been successfully carried on, marred only by slight asthenopia. Again, vertigo said to depend upon want of co-ordination of the ciliary and recti muscles, has been recovered from, while the want of co-ordination remained just the same. Every oculist of wide experience sees many such cases. They utterly destroy the theory that any discovery has been made of wide adaptation, which places refractive defects at the basis of general disease of the nervous system.

I could speak also of the essays upon this theme, which gravely fill pages of print with the most primary details as to accommodation and tests of vision, details to be found in every text-book upon diseases of the eye, but which are described as being something new in connection with the great discovery of ocular conditions "more than all their causes combined" as giving rise to nervous disease. I might also mention the anxiety produced in the laity about their eyes, which has caused presbyopes who have no accommodation of any disturbing kind, to submit to disabling of their vision with atropine for two weeks, in order finally to get a pair of glasses, which any oculist would prescribe, and correctly prescribe, in fifteen minutes by the clock. If this dictum which we are discussing be true, most physicians should become oculists. Very little other knowledge than how to test the refraction and the muscles, and how to cut the latter will be needed, if the predictions as to the importance of this discovery are fulfilled.[1]

It having been pretty thoroughly established that errors of refraction among well people, are the rule and not the exception, the next thing naturally is to determine how many well people—that is, well as to asthenopia and nervous symptoms—have what is called muscular equilibrium, or, to use a modern nomenclature, have *orthophoria*, or parallel eyes.

I have recently investigated these conditions of muscles, which are said to be the prominent, if not the chief, factors in causing neuropathic conditions, and I present the table herewith. The investigations were made by one of my staff, Dr. Deynard, of the Manhattan Eye and Ear Hospital, with the phorometer, with strict attention to the details laid down in the recent writings upon this subject. I personally have never examined the cases. Dr. Deynard has been perfectly untrammelled in his investigations.

One hundred and three persons who did not have any trouble with their eyes that they knew of, who read and wrote and sewed, without headaches or asthenopia, who had no vertigo, chorea, epilepsy, hystero-epilepsy, or insanity, were selected as objects for testing. Eighty-three

[1] The views of those who believe that migraine is always to be ascribed to ocular defects, if those defects are found, are well presented in a recent lecture by Dr. Seguin (New York Medical Journal, April 5, 1890). He says: "The proportion of subjects of migraine who have ocular defects is amazing; very nearly all have either errors of refraction or muscular insufficiency, or both combined. In 1882, I received from Dr. G. C. Savage, of Jackson, Tenn., a very courteous letter challenging me to furnish a case of migraine in a person with normal eyes. I have not yet met with one, though I have been told of two or three by oculists in whom I have confidence. Of course the statement as to the invariable concomitance of eye-faults with migraine presupposes that the patients have been examined thoroughly —*i.e.*, under the full effects of atropine for refractive errors, and by Stevens's method for muscular insufficiency. I regret to say that there are still oculists of good standing who examine the eyes of headache cases in the most careless way, ordering glasses without having used atropine, and ignoring the muscles altogether. This has happened under my observation in New York within six months."

All this argument falls to the ground, when we learn that thousands of people have all these defects and yet have no migraine. I have also seen many persons with migraine who were no better after a careful correction of astigmatism and muscular insufficiencies, although some are much relieved by glasses, especially cylindric glasses. Dr. Seguin adds: "Another argument in favor of the ocular origin of migraine is that other remarkable fact, that in many persons of both sexes the attacks diminish and cease between the ages of forty and fifty years. It is at this period that the power of accommodation becomes exhausted and a large part of the unconscious strain which has been going on from early youth is removed."

This cannot be the explanation, for it is just after presbyopia comes on, that astigmatism often becomes very troublesome, especially astigmatism of a moderate degree. I know of many cases where asthenopia, blepharitis, and so forth, first appeared when glasses were needed for fine print, and the spherical ones proved insufficient. The cessation of attacks of migraine can hardly, in the light of this fact, be due to the let up in the accommodation incident to middle life. Dr. Seguin falls into the error now so common of ascribing headaches and so forth to the eye, simply because errors of refraction are coincident with the neurosis.

Many neurologists have unfortunately not kept up with recent accessible ophthalmological literature. They are working upon lines that were given up by oculists ever since the actual percentage of ametropia was discovered.

were aural patients attending the Manhattan Eye and Ear Hospital; 6 were friends who came with them; 11 were physicians; 1 was a music teacher; 1 was a servant, and 1 a detective. Seventeen, or sixteen per cent., were found to have muscular equilibrium; 84, or eighty-one per cent., had a want of muscular equilibrium, so-called heterophoria; of these 27, or twenty-six per cent., had deviation outward, exophoria, insufficiency of the interni, and 74, or seventy one per cent., exophoria in accommodation; 16, or fifteen per cent., had deviation inward or esophoria, insufficiency of the externi; 7 had esophoria in accommodation; 11, or ten per cent., had hyperphoria, a tendency of the right or left visual line upward; 24 had hyperphoria in accommodation. A re-examination of five of these patients all showed a change in the muscular examination from that found at first. This is an important observation, since it proves, as asserted by Starr and others, that the muscular power in the same eyes is not fixed, but variable.

Hence it is seen that any series of cases founded upon certain ocular insufficiencies, cannot be said to be proven when the existence of these insufficiencies is shown, for they may exist in connection with entirely healthy nervous systems just as errors of refraction may. The value of observations founded on such tables is now no more than of those founded on errors of refraction. Not only does all the world have faulty refraction, but very few people possess equilibrium of the ocular muscles.

The capacity for great intellectual work with great muscular insufficiencies, is well shown by the following extract from a letter relative to the perception of distance by Sir William Rowan Hamilton, Astronomer Royal of Ireland,[1] printed in his biography: "Though I habitually see a double universe, yet a marked improvement has taken place within the last few weeks in my power of seeing single. This I attribute to my having lately, for the first time in my life, bought a stereoscope and used it at leisure. A friend within a few minutes' walk of me has long had a stereoscope apparatus, but years elapsed before I could catch the effect at all. With each eye separately I saw a good relief, but it is 'two years ago' that I first was able to see that tertium quid which is the true result of the stereoscope, and certainly it greatly astonished me" (written by Hamilton to De Morgan at fifty-eight).

Hamilton also states that on the evidence of his friends he did not squint, and his photograph shows that he did not do so in any marked degree.

The study of the causation of disease is certainly a very important one, but it is almost as puzzling at times as the theological problem of the origin of evil in the world. Yet some things we do know. If a man lives in a malarial swamp and intermittent fever attacks him, or if he drinks water polluted with typhoid bacilli and gets typhoid fever, or if he is exposed to a case of small-pox and breaks out with this disease, or if after prolonged exposure to wetting he is attacked with acute rheumatism, we have no difficulty in saying as to where the cause of his disease is to be found. But no philosopher will conclude that cholera is caused by insufficiency of the ocular muscles, because a large proportion of those seized with this disease, as is certainly true, have such an insufficiency. The true philosopher will recognize in nervous maladies a series of causes acting together, and at the bottom of them all, in this country at least, will be found that illy defined condition of which we know so little, but of which we shall know more, called, nervous exhaustion.

To go back to errors of refraction for a moment. Another fact should be noted in this discussion. Contrary to what is stated by Ranney, hypermetropia is constantly outgrown in the development of the eyeball, as every ophthalmologist knows. A hypermetropic eye may even become myopic. Glasses needed at twelve and fourteen are discarded without asthenopia at twenty, and so forth.

The inconvenience of uncorrected errors of refraction, especially of high degrees of hypermetropia, and of even inconsiderable degrees of astigmatism, can hardly be overestimated with reference to their influence upon the head and the face, and upon the spirits of some patients, but their influence generally seems to stop there, except in very rare cases in neurotic subjects.

It is not an uncommon experience in malaria and after recovery from typhoid fever, to find accommodative asthenopia, which is only relieved when quinine has cured the malaria, and time and hygiene have restored the shattered nervous system of the sufferer from the *fièvre nerveuse*.

Those who believed that in the eye, "more than in all other causes combined," are to be found the cause of functional nervous disease, would have been now on surer ground if they had stood by the first declaration, that errors of refraction were the cause, and not taken refuge in want of muscular equilibrium.

A great deal of muscular insufficiency depends upon uncorrected astigmatism. Alfred Graefe and Loring were right. We can say very little as to what constitutes a muscular insufficiency until the refraction, and I say especially the astigmatism, be corrected. A thorough use of atropia, or better still, an examination by Javal's ophthalmometer, will often cause us to correct a troublesome insufficiency by cylindric glasses and not by prisms, much less by a tenotomy.

There is a large class of neurotic patients who may or may not have high degrees of errors of refraction, generally, however, they have only low degrees of hyperopia or hyperopic astigmatism, whose accommodative asthenopia, like their headaches, depend upon hereditary faults and predispositions. These neurotic families seek, now in one panacea and now in another, cure they will never get. Palliation is all there is for them. Neurotic they are born and neurotic they will die, although for a time one set of symptoms may be transferred to another. Like Dr. Loring's case which I have before alluded to in this Academy, "their eyes have got all right, but it has gone to the stomach." I know of a neurotic family where one member has had a dozen operations upon his eyes, but he is as neurotic as ever. Another has had all her troubles transferred from her ovaries to her eyes, by excessive attention to them. She goes about discoursing upon advancements and divisions of recti muscles; but sure that without her oculists she would have died. A third member, with myopic astigmatism in one eye and myopia in the other, and the difficulties of presbyopia coming on, is nearly harassed out of his domestic peace by the urgent desires of his more fortunate relatives that he should seek relief in ocular tenotomies. Other patients, who have never suffered from asthenopia until they began to undergo treatment for nervous disease by tenotomies, wander over the earth seeking to have a double vision removed, of which they once knew nothing, and yet complaint is made by the author of the doctrine I am combating that, after months, and even years of attendance and several tenotomies,[1] patients are withdrawn from treatment while defects of great importance are known to exist, which by continuous effort might be removed.

Donders' argument, that in errors of refraction and not in muscular insufficiencies would be found the chief cause of asthenopia, was not put very plainly, but I undertake to say that not in the muscles but in the eyeball, in the refraction, the sources of ocular reflexes are to be found, such as occasionally exist, just as a foreign body in the ear may occasionally cause epilepsy, or a decayed tooth cause spasm of accommodation. The condition of the muscles is unstable, as has been pointed out; and, as my tables show, what is a man's power in his ocular muscles to-day, may be another to-morrow.

These cases of epilepsy and chorea dependent upon peripheric irritation are entirely exceptional, while asthenopia is real and common. We have no reason to

[1] I am indebted to my friend Dr. Dennet for this quotation from the life of this eminent savant.

[1] New York Medical Journal, April 16, 1887, p. 427.

hope, from anything that has yet been shown, that there is any large class of functional constitutional nervous diseases caused by peripheric troubles, and, as I have said, whatever there are, are to be sought for not in the muscles but in the eyeball. The conclusions to which I have come, as a result of twenty-six years of work in ophthalmology, with a careful consideration of the writings and works of others, including those who believe that functional nervous disease is due to the eye "more than to all other causes combined," are as follows:

First. The eyeball of the human race is very rarely in what might be defined as an emmetropic condition.

Second. Perfect equilibrium of the ocular muscles is by no means a common condition, even among persons of sound health and without asthenopia.

Third. Defects in these two states by no means necessarily produce even local disturbances, such as are comprehended under the term of asthenopia, inflammation of the edges of the lids, and so forth, although high degrees of hypermetropia, moderate degrees of astigmatism, and all cases of mixed astigmatism are apt to do so, sooner or later.

Fourth. Asthenopia depends chiefly upon two sets of causes—nervous exhaustion and uncorrected errors of refraction.

Fifth. In estimating the influence of these defects great stress should be laid upon the general condition, and the line sharply drawn between asthenopia due to exhaustion and that to faulty refraction.

Sixth. Nothing has been added essentially to Donders' discovery of the fundamental cause of accommodative asthenopia, except that astigmatism forms a more important factor in its etiology, muscular asthenopia falls into the background, while the definition of asthenopia has been much amplified by ophthalmologists.

Seventh. The origin of a considerable class of such diseases as chorea, epilepsy, and hystero-epilepsy has not been found in errors of refraction nor in insufficiencies of the muscles of the eyeball.

The observing general practitioner of our city is able to test the truth of this latter proposition as he looks among the neurotic families and individuals of his acquaintance, and observes whether or not the use of glasses and the performance of ocular tenotomies, are beginning to lessen the cases of chorea and epilepsy. Certainly a discovery which it was predicted would vie with those of Jenner and Lister has been proclaimed with sufficient fulness and clearness, and has been acted upon in an arena large enough to allow us by this time to judge whether or not it is an advance in rational and scientific therapeutics. I do not believe that it is, but I believe that the theory of the ocular origin of nervous disease, by distracting attention from the evident, and in some instances preventable causes of neuroses, has delayed our progress, and inflicted serious damage to the reputation of our profession for accurate observation and philosophical conclusions.

ON THE RELATIONS OF PERIPHERAL IRRITATION TO DISEASE, AS MANIFESTED IN THE THROAT AND NOSE.[1]

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During the past few years some eminent specialists in laryngology have attributed, as I believe, too much importance to irritations of the throat and nasal passages in the causation of disease. This position was almost to be expected when we reflect how prone the medical mind is to assign a prominent place to the particular organ whose diseases are familiar in the etiology of most human ailments. Add to this the fact that it has been proven that nasal obstructions are unquestionably, at times, the efficient factors in producing an outbreak of hay fever, or of asthma, and we have a sufficient reason to appreciate why surgical methods for the relief of these conditions became familiar and widespread. While we should see in this march evidence of progress and improvement, we should also be prepared to note what is evident exaggeration and excess.

Up to the time that Daly, Roe, Sajous, Bosworth, and others showed the nasal factor in the production of hay fever, this affection was integrally allied with a neurotic habit and the presence of pollen in the atmosphere. After the recognition of the fact that the nasal organ was frequently the seat of diseases which caused peripheral irritation, and thus led directly to hay fever, it was deemed essential to employ proper means to get rid of these diseases.

The affections referred to appeared to be of different kinds. Sometimes, in the opinion of careful observers, being of the nature of neuritis of the peripheral nerves of the pituitary membrane, as shown by the numerous areas of painful sensibility. Again, the turbinated bodies were in a state of notable hyperæmia or hypertrophy, or the septum was thickened or deflected, or polypi filled the nasal fossæ, or an adenoid vegetation clogged the post-nasal space. These were regarded as conditions which were strictly morbid and to be removed, with the legitimate hope of ameliorating or curing the hay fever. It soon became a routine practice to make use of the galvano-cautery, and in several successive sittings to cauterize all the attainable sensitive areas on the pituitary membrane. Or, if sensitive areas were not discovered, it was judicious to remove any existing obstructions to easy nasal respiration by means of the saw or trephine. Now, what has been the result? At first, and during a period of two to three years, it was not uncommon to read of the radical cure of hay fever being thus effected. Then a few accurate observers began to doubt these wonderful cures, and to notice that after a time the hay-fever victims were again sufferers, although in many instances their symptoms had been much ameliorated and they were hopeful for a time of a complete cure. Unfortunately, the cures were few when the cases were watched and followed up with impartial judgment. Theories were not wanting to account for the benefits which accrued to the patient from operation. Among the most seductive of these, I would refer to that of vaso-motor paresis of the large veins of the turbinated bodies, which caused a peculiar hyperæmia almost pathognomonic of the disease. This vaso-motor paresis is occasioned, as is stated, by the intra-nasal obstructions. When we remove the latter, we cure the former condition, which was a fruitful source of sneezing, nasal discharge, conjunctivitis, and cough. This interpretation is, I believe, in a few rare instances, true. In many it is in great part, if not entirely, erroneous. There are instances of hay fever in which cauterization, sawing, or trephining are wholly negative as regards their effects. Inasmuch as the operations have been undertaken frequently when it was simply the personal conviction of the operator which caused the nose to be occluded, and not the actual fact of it being so, we can appreciate that the patient was injured, if not relieved, by an unnecessary and useless operation.

Now, I do not desire for a moment to impugn the motives of such operators—I merely desire to direct attention to lack of judgment.

Admitted, they say, that hay fever depends upon a neurotic habit and a specific irritant, still the latter would not take effect if the nose were in a healthy condition, and they proceed to discover with absolute certainty this intra-nasal disease. Occasionally they are correct in their interpretation; the nose is diseased and requires surgical treatment. In many instances the morbid state of the nasal organ is merely a resultant of morbid processes situated elsewhere, and it will be remedied from this broad stand-point only by judicious medication.

Finally, there are instances in which the amelioration of the case may depend, in some degree at least, upon

[1] Read before the New York Academy of Medicine, March 20, 1890.

the proper local treatment of the nasal membrane; but this treatment should be that of soothing or altering the condition of the soft parts by suitable topical applications, and not the ablation or resection of portions of organs supposed to be diseased, when in reality they are healthy.

Much of what has been said as applicable to hay fever, is also applicable to hay asthma. Perennial asthma should now be considered. Can this disease—so difficult to treat successfully, so varied in its manifestations, of such different origin—be cured frequently by the removal of a nasal obstruction? Certainly and unhesitatingly I answer, no, it cannot. Peripheral irritation in the nose is without much doubt a predisposing cause of asthma in a certain proportion of cases; in a very moderate percentage should it be regarded as a direct and efficient cause of this disease. Asthma, as we know, may be occasioned by any number of conditions which are of the nature of peripheral irritations. A disordered stomach, a loaded rectum, a painful ovary, a decayed tooth may precipitate the attack. In like manner, an irritated or obstructed nose may produce this effect. I have seen many cases already in which the removal of mucous polypi or enlarged turbinated bodies from the nasal passages seemed to result in a cure for a time; but the cures were not permanent; the attacks of asthma returned sooner or later. It may be that they were ameliorated, that their intensity was diminished, and their frequency lessened; but the patient was not permanently cured.

In this connection I recall the circumstance of a distinguished practitioner of another city, who dined at my house some years ago, and who told me in confidence at the time of his great relief from asthmatic attacks by the extirpation of nasal mucous polypi, at the hands of a distinguished specialist of New York. Forty-eight hours later I was seated in an upper bed-room of the Fifth Avenue Hotel, caring for my confrère, who had had as bad an attack of asthma as I ever saw.

In a paper read by me before the American Climatological Society, in June, 1889, I stated that during the preceding year I had seen and treated about thirty cases of asthma due to different causes. Among these there were six in whom the asthma might be fairly ascribed to the existence of intra-nasal obstruction. Of these six cases, five were due to hypertrophy of the turbinated bodies in conjunction with more or less deviation and thickening of the nasal septum. The sixth case was one of nasal polypus. In all six cases operations on the nasal passages were undertaken. The nose was rendered pervious and the patients experienced much comfort as a result of the operations. As regards the effect on the asthma, it was noted that in four cases the asthma was at least temporarily improved. In two cases there was no marked relief. In the histories elsewhere reported in this paper there were many cases in which asthma existed, and yet at no time was there any appreciable nasal obstruction. Further, I have seen a large number of cases, several of which I have operated upon successfully, in which there was pronounced nasal occlusion, and at no time had there been the slightest tendency to asthma. Such cases, of course, can be readily explained by saying that the special neurotic element was lacking in them, and on this account the attack of asthma failed to occur. That may be true, but it was not always evident upon examination of the patients, and in some cases the nervous temperament was highly predominant.

These facts, I regret to say, are not wholly in accordance with the statement of Dr. Bosworth, who says that a large majority, if not all cases of asthma, are dependent upon some obstructive lesion in the nasal cavity. Against this we have the affirmation of Dr. Shurly, who writes that "daily experience overwhelmingly shows a very large number of cases of intra-nasal disease in persons of neurotic habit, with a very small proportion of cases of associated asthma."

"We are going much too far," says Dr. A. H. Smith, "when we seek to establish it as a rule that asthma is to be cured by operative procedures within the nose." As Dr. Daly affirms, it is unquestionably true, "that there is a certain proportion of cases of asthma that can be cured by putting the naso-pharynx in a healthful condition." And it is also true that some cases of asthma can be cured solely through the instrumentality of the cautery, the saw, the rongeur forceps, or the nasal trephine. These are the instances in which it is obvious that the permeability of the nasal passages is essential in order that the function of respiration may be carried on properly, and that the respiratory surface may be protected, and especially against the evil effects of constant or intermittent mouth-breathing. In the latter cases, the lungs do not receive a sufficient supply of air, and this fact may be corroborated by listening to the chest of one who alternately breathes through the mouth and the nose. Moreover, the nose is a filtering apparatus, besides providing the proper amount of moisture to the inspired current of air, and if it be interfered with, the foreign bodies floating in the atmosphere, instead of being arrested on its lubricated vibrissæ, penetrate directly into the lungs and cause, necessarily, irritation and distress.

Therefore, whenever an operation is required to render the nose permeable, and particularly when there is a tendency to, or confirmed asthma, it should not, if possible, be delayed or neglected.

Frequently, however, the nasal occlusion is due to a congestion of the pituitary membrane, which in these cases may be greatly diminished, or wholly relieved, by the medicinal agents which are employed for the purpose of restoring the freedom of the pulmonary circulation. Again, crusts, scabs, mucus, accumulate in the nasal passages at times, and promote an inflammatory process which can be temporarily relieved by a suitably-formulated spray. I have known the hyper-sensitiveness of the pituitary membrane to be greatly diminished at times by repeated applications of carbolic acid with glycerine and vaseline. Indeed, in this way I recall two cases of asthma of nasal origin in which I effected a temporary cure.

To show the difference of opinion in regard to the intra-nasal treatment of asthma, and particularly by cauterization, I would add that in the discussion following the reading of Lazarus' paper on this disease, at the Berlin Medical Society, "the general consensus of medical opinion seemed to be that the number of cases in which asthma was benefited by cauterizing the nasal mucous membrane on the turbinated bones was extremely small."[1]

In summing up this subject, I will quote at present, with some modifications to render it more appropriate to the actual discussion, from a paper written by myself and read in 1886 before this Academy of Medicine. The title of this paper is "Respiratory Neuroses of Nasal Origin."[2] In it I write: "There are, without doubt, a great number and variety of affections, mainly neuroses, under the direct influence of morbid intra nasal conditions; still, at the present time we should be careful not to exaggerate their importance, and, when and wherever we we find a neurosis of the respiratory organs, immediately reach the conclusion that the nose occasions it." There is much truth in the observations of the past few years in regard to the predominating influence of a hyper-sensitive nose, but there is also a tendency to exaggeration in this regard, and we should be careful to exclude other efficient causes of asthma before admitting its nasal origin and instituting severe or prolonged treatment of this organ with a view to cure the possible secondary affection. The nose is naturally a sensitive organ, and many times I have produced epiphora, cough, spasmodic closure of the glottis, moderate in amount, and slight dyspnœa, by the mere passage of instruments or simple nasal examinations, when the result of my further investigation was to show that no nasal trouble of importance existed. This is no

[1] Annual of the Universal Medical Sciences, 1888.
[2] New York MEDICAL RECORD, p. 119, 1886.

new observation, and I am conscious that all of you are familiar with it. In reading the histories of clinical cases we shall be disposed to take a one-sided view, unless we secure the sobering influence which comes from extensive reading and larger experience. The only way, I believe, in which we can avoid error at present in this seductive question, is to search carefully for other cause or causes of asthma; and when none are discovered, then, and then only, we should admit the nasal origin of the neurosis, and institute treatment in accordance with this conviction. I agree entirely with Loblinski, who says: "If there is really a nasal affection, it should be treated according to its character, and not on any far-fetched theory of its etiological importance." [1]

This being my opinion, I must reluctantly separate myself from any such radical position as that upheld by my eminent colleague, Dr. F. H. Bosworth, of New York, who writes that he has seen no case in which intra-nasal disease was not found as a predisposing cause of asthma. And, again, to quote him textually, he has "never known a case of asthma to occur in other than an obstructed lesion of the nose or upper air-passages." [2]

I fear I have left myself but a very short time to allude briefly to other matters of much interest. Ocular symptoms and diseases not infrequently originate from hypersensitiveness of certain intra-nasal areas. These may be photophobia, asthenopia, conjunctivitis, epiphora, contracture of the eyelids, etc. All these I have met with. On two occasions I cured my patients by intra-nasal treatment when that directed to the eye had wholly failed.

The recurring nocturnal cough of children when no pulmonary complications exist, is due frequently to congestion of the posterior portion of the lower turbinated bodies, which produces contact and pressure on the septum at this level. In view of the unique vascular and free nervous supply of this region, the anatomical explanation of this fact is sufficiently obvious. Judicious topical treatment of the nose alone relieves this troublesome symptom. Cough is produced by peripheral irritation engendered by acute or chronic rhinitis.

It is also frequently dependent on nasal polypi, enchondroma, exostoses, and nasal deflections. In the naso-pharynx it may arise from naso-pharyngeal catarrh, or from adenoid tissue at the vault of the pharynx. Hypertrophy of this structure gives rise to congestion of the lower naso-pharynx, and thus increases the sensory excitability.

Palpitation of the heart may become, it is stated, a prominent symptom of the hypertrophy. Chorea, especially of the facial muscles, is not infrequently present. Headache is often complained of, and spasm of the glottis may occur and become a very troublesome symptom. Tornwaldt has found in some instances that the bursa situated in the naso-pharyngeal region becomes diseased and causes, as he believes, hyperæmia and hypertrophy of the nasal mucous membrane. He also reports cases of asthma which were apparently dependent upon cysts in the pharyngeal vault, and which were cured by incision and treatment of these cysts.

These facts are much at variance with Bosworth's explanations as previously reported. In fact, Bosworth confesses his "entire inability to reconcile this statement either with his own clinical observations, or with his knowledge of the physiological and pathological processes of the upper air-tract."

It is interesting to remark that Hack and Tornwaldt both claim that they have in frequent instances cured obstinate cephalalgia by treatment of the naso-pharyngeal disease. Hack advises, indeed, that in all instances of severe headache a direct inspection shall be made of the upper air-tract, in order to discover any possible source of disease in this region. Of course, if it be detected (he says), it should be judiciously treated, and such treatment will be followed by cure of the head symptoms.

[1] Medical Record, May 27, 1887.

[2] American Journal of the Medical Sciences, September, 1888, p. 256.

It is pardonable, I trust, to remark in this place, that one could but sympathize with the poor patient who, under these circumstances, had also a special ocular disease; and, perhaps, also a passing attack of eczema, with evidences of general neurasthenia.

The outcome of such a situation would be four specialists and one general practitioner to help restore the unlucky mortal to a better state of health.

To resume the tenor of my discourse: In common with many physicians, I believe that inflammation of the larynx, trachea, and bronchi is often due to the extension of a chronic inflammatory affection from the naso-pharyngeal space, or to the fact that the secretions make their way down the pharynx and enter the larynx from above. This opinion is directly opposed to that of Dr. Bosworth, who claims, on page 525 of his work on "Diseases of the Nose and Throat," that he "does not suppose that the secretion from the nasal passages or the pharynx ever makes its way into the laryngeal cavity, under any circumstances."

At page 550, Bosworth, in writing of hypertrophy of the pharyngeal tonsil, forgets his previously expressed views for the moment, and unfortunately commits himself to the following statement: "Cough is present in certain cases, especially if there is much secretion which has made its way down the pharynx into the larynx, exciting a laryngitis." I should be glad to know which opinion Dr. Bosworth really adheres to, and if to the one first expressed, how he explains the development of the secondary laryngitis, unless it be from peripheral irritation in the nasal passages.

While I fully recognize that subacute or chronic laryngitis is frequently a secondary condition, and that the nasal passages are the first to become diseased, yet I claim that there are numerous instances in which the laryngitis is unquestionably the primary affection, and should be thus treated.

Follicular pharyngitis often occasions cough. This disease accompanies, or is secondary to, chronic nasal catarrh. The enlarged follicles become painful at times and unduly susceptible to irritation. Frequently the current of inspired air over these inflamed structures produces a short, dry cough, or a constant inclination to "hem." This disease is, also, not infrequently accompanied by marked dysphonia and weakness of the voice, which is apparently due to secondary involvement of the nerve-trunks whose course lies along the pharyngeal walls. The nature of the nervous affection in these, may be either a neuritis or atrophy through pressure from surrounding infiltration of the soft parts.

Enlarged tonsils are occasionally attended with paroxysmal and distressing cough or sudden attacks of dyspnœa, which closely resemble the suffocative attacks of laryngismus stridulus. Sometimes the attacks of dyspnœa are so intense that a sudden fatal termination is feared. They may occur at meals or at night during sleep. According to some authors, the sudden attacks of dyspnœa which afflict children are evidence rather of some rachitic disease of the bones of the skull (craniotabes) than of enlarged tonsils. Irritation of the large lingual papillæ or lymphoid tissue situated at the base of the tongue, when present in excess, occasions obstinate dry cough, dysphonia, and a sensation of stricture around the neck. The latter condition interferes somewhat at times with the powers of deglutition by pressure on the epiglottis, or simply owing to peripheral irritation. These different conditions can be relieved or cured by suitable treatment, sometimes purely medical, sometimes with surgical aid especially directed to the parts involved.

In terminating this brief summary of the subject which has been given me, I would like to add that, had time permitted to read it, it might have been made much fuller and more elaborate. As it is, I trust I have written sufficiently to indicate the points upon which discussion is desirable.

In this place I would remark, by all means let each one

of us look for peripheral irritation in the nose and throat when it seems proper so to do, as a source of disease elsewhere, and when discovered let us treat it rationally, judiciously, and effectively; but not allow ourselves for one moment to believe that the nose or throat, any more than any other organ of the body, is always diseased and should always be treated, either medically or surgically. Keep the general economy in good working order, with some special attention to each organ in a suitable degree and when it is really required, and, take my word for it, there will be much less to do for the rhinologists and for other exclusive specialists, and the majority of people will enjoy more peace of mind and health of body.

To quote from a late editorial of the London *Lancet*[1] and apply it to the subject of debate, I may well add that the study of throat disease "has proceeded along very narrow lines, and pathological theories have been formulated upon insufficient and often erroneous data and made the basis of universal treatment." Some of these views have already "been proved to be wrong, while others are, on the surface, of such an improbable character that they should be received only on the production of irrefutable proof of their correctness."

Would that I could bring to bear on this subject Dr. Goodell's brilliancy of interpretation, and conclude my paper with watchwords analogous to those he has furnished the gynecologists with as broad helps to diagnosis. We may, however, paraphrase one of them with advantage, which is this:

Always bear in mind that men, women, and children have some organs outside of the nasal cavities.

In conclusion, it is well to bear in mind that evidence is forthcoming that the abuse of intra-nasal treatment may carry with it unpleasant consequences. In corroboration of this, I quote from Dr. Rethi,[2] of Vienna, who enters a protest against the indiscriminate use of the cautery and snare in the treatment of intra-nasal disease. Though neuroses arising from disease of the turbinated bodies may often be cured by operation, he has noticed that in some cases they are increased, and that reflex conditions may even be originated by the cicatricial tissue which forms after operations."

INTRALIGAMENTOUS OVARIAN CYSTOMATA.

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The difference between intraligamentous and the ordinary forms of ovarian cystomata is simply in the position they occupy in relation to the ligaments. The location may be called an unnatural one because it differs from that which ovarian cystomata usually occupy.

The intraligamentous ovarian cystomata are, comparatively, quite rare. This suggests that the causes operative in determining this unusual location of these cystomata are exceptional. The literature on this subject is extremely limited. Two theories have been advanced to explain the topographical anatomy of intraligamentous cystomata. The one assumes that, owing to some error of development, the ovary, during embryonic life, finds its way into the folds of the broad ligament and there remains. In that case, if a cystoma of that ovary occurs it is bound to split up the ligament and convert it into a capsule for itself.

The second theory is that during the growth of the cystoma it burrows, so to speak, into the folds of the ligament, and once having insinuated itself there pushes the folds apart, and these folds grow with the cystoma and form a ligamentous capsule for it. In order that this may come about, the ovary must be closely attached to the ligament, in place of being held by a special fold of peritoneum, which leaves it, to some extent, free from the ligament proper. Or the ovary may be bound down to the ligament by an inflammatory adhesion. Where a cyst develops deep in the ovary and meets resistance on the free peritoneal surface, it pushes its way in between the folds of the ligament. There is good evidence in favor of this theory in the fact that these cystomata come from the paroöphoron, which is the portion of the ovary which is nearest to the uterine ligament. Furthermore, I have in one of my own cases found the ovary from which the cystomata came embedded in the posterior fold of the ligament. It would be more correct, perhaps, to say that the ovary was stretched out upon the posterior fold of the ligament. It was so changed in form that I should have overlooked it had it not been that there were several small cysts in it surrounded by what appeared to be ovarian stroma.

In another case I found, while enucleating the cyst, that it was very firmly adherent at a point in the posterior fold of the ligament where the ovary should be found. The vessels were larger at that point than anywhere else, which led me to think that the ovary was there; but the parts were so changed by inflammatory products that I could not positively detect any ovarian tissue. This, I think, is sufficient to settle this point in the pathology and causation of some of these cystomata, and presumably the larger portion, if not all, of such. Still, it may be admitted that malposition of the ovary, because of a lesion of development, may obtain in some cases.

These cystomata may be single or multiple. I think, however, they are more often single. All of my own cases, eight in number, have been monocysts. Another interesting feature is that they are generally papillary or proliferous cysts. This, according to some authorities, notably Bland Sutton, of London, is due to the fact that they are developed from the deeper structures of the ovary, the paroöphoron, as already noted.

The position of these cystomata and their relations to the pelvic organs have a very important bearing upon the question of treatment, as will be seen further on.

In my own practice I have found them occupying widely differing positions, in relation to the ligaments and pelvic organs. In some, the tumor was situated in one ligament, displacing the uterus to the opposite side of the pelvis, and, in a lesser degree, the bladder also. In others the tumor occupied a position in both ligaments and between the uterus and bladder. When thus located the tumor, uterus, bladder, and ligaments have been found high up out of the pelvis, so that the most dependent portion of the tumor could not be easily reached through the vagina. Again, I have found the tumor behind both the uterus and bladder, and yet between the folds of both ligaments. In all of these the pelvic organs were carried up into the abdominal cavity, while the tumor descended deep into the pelvis. It appears that there is a rule which determines the location of those tumors which occupy both ligaments, in regard to their relations to the pelvic and abdominal cavities. This rule may be formulated as follows: When the tumor is between the uterus and bladder all three rise up into the abdomen, whereas if both of these organs are in front of the tumor it dips well down into the pelvis. The reason is that in the one case the vagina arrests the process of burrowing downward, while in the other there is no resistance to the descent of the cystoma.

In all cases the broad ligaments become greatly enlarged and thickened, usually covering the whole cyst, although they are thinned out at the upper portion. When the cyst does not descend into the pelvis and has attained considerable size, the upper portion of the cyst may present a wall of medium thickness; in fact, the ligaments diminish in thickness and vascularity until there is but little left but the peritoneum; and the upper part of the cyst then appears more like an ordinary intraperitoneal ovarian cystoma.

These facts are of the utmost importance in regard to treatment, and hence the reason for this brief account of the various ways in which they may be situated.

[1] February 22, 1890, pp. 412 and 413.
[2] Vide Medical News, March 8, 1890, p. 258.

The diagnosis of such cases is of interest chiefly because of the difficulties encountered in operating and the urgent necessity of clearly comprehending the exact conditions present, in order to manage them to the best advantage. I have found it impossible to make a complete and comprehensive diagnosis in all cases. It is generally possible to make out that there was a cystoma in the broad ligament, but with no definite certainty as to its position and topographical anatomy. Judging from the literature on this subject, it appears that others have suffered from a like uncertainty in some cases. When a cystic tumor in the abdomen which is firmly fixed below, with no history of inflammation during the earlier stages of the growth of the tumor, and the uterus is drawn up out of the pelvis and lies behind or in front of the cystoma, I suspect that it is intraligamentous. If the uterus is displaced laterally in a marked degree by the cystoma that is present, or if the cyst descends deep down into the pelvis while the uterus is high up and in front of the cyst, the facts point to the same conclusion. When a portion of the tumor found in the pelvis is cystic, this is a great aid; but, as a rule, these tumors, as already stated, are proliferous, and there is so much solid material in the most dependent part that fluctuation is not found, and the tumor appears to be solid to the touch and may be mistaken for a fibroma or fibrocyst of the uterus. One case was seen by two well-known ovariotomists, and both suspected fibroma of the uterus as well as ovarian cystoma. My first impressions were the same, but upon opening the abdomen I found the uterus normal, but displaced upward by an intraligamentous ovarian cystoma. Cases may be divided into two classes, those in which a complete diagnosis can be made, and the other in which the diagnosis is incomplete. In the one the nature and composition of the tumor, its relations to the abdominal and pelvic organs, and the extent and location of its attachments can be clearly determined, and the other, which is incomplete but sufficient to warrant either operative treatment or a full assurance that the case is not amenable to surgical treatment. The first or complete diagnosis can be made from the usual physical signs and the history. The incomplete diagnosis may be made complete by surgical means, such as aspirating or by laparotomy. It is of the utmost importance to differentiate between these two classes of cases. When only a partial diagnosis is possible, leaving doubts as to a possible malignant element existing in the case, the question of the propriety of ovariotomy may be determined by an examination of the intraperitoneal fluid, which is often present. If this proves negative, the operation is advisable; while if the cells characteristic of malignant disease are found, the case should be left alone. Keeping still to the question of diagnosis, I may say that in cases of intraligamentous cystomata one can usually make sure that an operation is called for and is justifiable, but the diagnosis must often rest as incomplete until the abdomen is opened. At the same time it is not an easy task to complete the diagnosis after laparotomy. A few words on this subject may be admissible, in view of the importance of the matter. We hear much of making an exploratory operation for diagnostic purposes, but I am satisfied that skill and experience are very necessary to do this. To recognize just what is present, and to determine what to do in these cases when the tumor is exposed, is no easy task; and still, upon a rapid inspection and palpation and prompt decision regarding the exact conditions, and how to manage them, depends the success of the surgeon in complicated cases. I may not have seen or carefully thought of all the conditions which simulate, and hence may be mistaken for, intraligamentous cystomata, but such observations as I have made cover the most important part of the ground.

When the tumor is exposed by laparotomy its appearance resembles most closely a uterine fibroma, and owing to the thickness of its walls it feels to the single touch, especially if the cyst is very tense, as usually is the case, like a fibroma; but by resting one finger on the tumor and percussing the abdominal wall at a distant point, fluctuation can be unmistakably made out. This settles that point at once, but leaves still the possibility of a uterine fibrocyst, and although this is not important as bearing upon the main question of removal of the tumor, it affects the method of procedure and should be correctly decided at once. This can be done by tapping, which shows the character of the fluid, which is all sufficient, with few exceptions. If pus is found it may be impossible to say whether the cyst is uterine or ovarian. The tapping, however, gives more room for the introduction of the hand, which enables the operator to make out the attachments and the relation of the tumor to the pelvic organs, and thereby complete the differentiation.

The pregnant uterus also looks, in color and vascularity, like this form of tumor, and may lead to doubt. At least I think that when this mistake has been made, an intraligamentous tumor must have been suspected, because it is the only ovarian cystoma that appears at all like the uterus. This can be made clear by observing contractions of the uterus, which can be easily excited, and by passing the hand into the abdomen the ovaries can be found, and the cervix uteri and normal ligaments will show that there is pregnancy.

These tumors require special treatment, owing to the fact that they are not pedunculated like the ordinary cystomata, but are encapsulated and differ in their relations to the pelvic organs.

The several methods adopted in operating are as follows: Enucleation ranks first, because it is adapted to more cases perhaps than any other. This well-known method, devised and introduced by Dr. Miner, of Buffalo, has been practised by many ovariotomists. It was employed in the treatment of ordinary pedunculated cystoma when first brought out, and is now seldom practised except in parovarian cysts. In fact, I do not think that Dr. Miner ever employed his method in the treatment of the class of cases now under consideration, but if he did, he omitted a description of some of the details which are necessary. Enucleation is adapted to all cases in which the cystoma descends into the pelvis, completely separating one or both ligaments. In all such cases it should be tried, and it will succeed well unless there has been inflammatory action which has firmly united the cyst-wall and folds of the ligaments, or the cyst-wall is thin and friable.

In such conditions the enucleation may prove to be impossible, and other means of treatment, to be hereafter noted, must be adopted. In the first place, it is important to tap the cyst high up in order to avoid wounding the thickest portion of the broad ligament. To do this it is sometimes necessary to extend the incision in the wall of the abdomen higher than usual. The cyst being emptied and drawn well out of the wound, the separation of the ligament and cyst-wall should be begun at that point high up where the ligament is so thinned out as to be hardly noticeable. When the dissection is begun all around, the capsule can be lifted up and the dissection continued with the knife-handle, and finally the deeper portions can be separated with the finger. The traction should be made upon the cyst-wall, as the capsule or ligaments are easily lacerated. During enucleation, if any large vessel, artery, or vein is injured, it should be ligated or controlled with forceps at once. The management of the ligaments, after the cystoma is removed, is first directed to the control of hemorrhage. In some cases a general oozing is all that there is. Occasionally a wounded vessel here and there needs ligating. When the cyst extends deep down into the pelvis there is often very troublesome bleeding from veins. These should be ligated, if possible; but if that cannot be done, pressure with a hot sponge should be tried, and, if that fail, styptics may be used. The ligamentous capsule now presents a pouch, the inner surface of which is raw, and from which there will be some bleeding and much serous oozing. This should be treated as follows: The

upper portion of the opposing sides should be folded in so as to bring the peritoneal surfaces together, and these should be fixed by a continuous catgut suture. The suturing should begin on both sides, and be from the sides toward the centre, and close the parts, except at a point beneath the abdominal wound, where an open space should be left for the drainage-tube. If the ligaments thus brought together by sutures can be brought up to the lower angle of the abdominal wound, they should be fixed to the abdominal wall by silk sutures passed through the ligaments on each side of the opening for the drainage-tube, and then through the wall of the abdomen. When the ligaments cannot be brought up to the wall of the abdomen a drainage-tube without side openings should be carried down to the bottom of the cavity.

While this mode of treatment is perfectly satisfactory in suitable cases, there are difficulties attending the operation in exceptional cases, and hence certain dangers. The cyst-wall may be easily torn, and hence the danger of leaving portions of it. When this happens it is necessary to destroy the secreting surface. This may possibly be done by applying pure carbolic acid. The most diffi cult part of the operation, in some cases, is to stop the bleeding. This has been referred to; but I may say further, that the oozing at the time of operating, and the liability to suppuration which may occur afterward, render the convalescence rather tedious in many cases.

The next procedure is to remove the cystoma, and its capsule also, by ligating the ligament below the tumor. This method is adapted to those cases in which the cyst is situated in one broad ligament and does not dip down very far into the pelvis. Such cases are described in books as having a very broad pedicle, but the most that can be correctly said of them is that they are partially pedunculated. In this condition the ligament can be ligated with the repeated continuous ligature. This is applied in the following manner: One end of the ligature is passed through the ligament and a portion of it tied, then one end of the ligature is passed through the portion already ligated, then carried forward, and brought back through the ligament in such a way as to secure another portion, and the two ends again tied, and so on until the whole is secured. The cyst and its capsule are then cut off. This leaves no cavity, arrests all possible hemorrhage, and in this respect is all that can be desired. But there are difficulties and dangers that may arise, even in cases where it is applicable. There is danger of wounding the ureter or including it in the ligature. A knowledge of the location of the ureter and its anatomical relations are not always sufficient to guard against this accident, because the ureter may be displaced. By drawing the cyst and ligament out of the abdominal wound it may be possible to see that the ureter is not in the way; but this cannot always be done, and then one has to depend upon the touch to localize the ureter and avoid it. This is possible, owing to the fact that the ureter feels like a cord crossing the ligament, but in case the tissues are thickened by inflammatory products it is difficult indeed to find the ureter.

There is still another way of managing these cases, and that is a combination of the two methods already described. It is well adapted to cases that can be enucleated easily, and has the advantage of surely avoiding the ureter. The cyst is first enucleated, and the capsule, or so-called pedicle, is tied and cut off. The advantages are that the capsule is easier to be handled after the cyst is removed, and there is no danger of including any portion of the cyst in the ligature, an accident that may occur in operating by the second method alone. There is one fortunate feature in this method of treatment, viz., in case enucleation cannot be effected ligation alone can be resorted to. It is well, then, to try enucleation, even if it has to be abandoned.

There still remain for consideration cases that cannot be removed by any of the methods known at the present time, and there are such. A cystoma that descends into the pelvis and has become firmly adherent to the ligaments by inflammatory products cannot be enucleated, neither can the capsule be ligated. At least enucleation cannot be done with any degree of safety. That complete removal of such tumors has been tried is no doubt true, but the result has been to open into the rectum, and cause uncontrollable bleeding or peritonitis, either of which must prove fatal. These complications are always present in suppurating intraligamentous cystomata, and hence when pus is found on tapping it may be inferred that enucleation is impossible. I have found, however, that a non-suppurative cellulitis has so firmly united the cyst-wall to the ligamentous capsule that they could not be separated. The treatment of such cases is by drainage. I am well aware that the more skilful the operator the more surely will he overcome difficultics, and more seldom will he have incomplete operations; but when the conditions which have been named are present, I am confident that it is wiser and better to empty the cystoma and unite the cyst-wall to the abdominal wall, and then drain by means of the ordinary tube. The cyst fluid is usually septic (this is always so in suppurating cysts), and it is very difficult indeed to save the peritoneum and abdominal wounds from contamination. After emptying the cyst and opening it, it should be thoroughly cleaned out with sponges or absorbent cotton, and papillary tissue, if present, may be scraped off. This should be done with the cyst drawn well out of the wound. If the cystoma is large, an effort should be made to separate the cyst-wall capsule as far down as possible. If that can be done, the detached portion of the sac is then cut off, taking care to have it so that the central portion will come up to the abdominal wall without dragging. Bleeding vessels in the cyst-wall are ligated or twisted. The detached portions of the capsule are folded into the cyst and united with a continuous suture, beginning on each side and continuing toward the centre, but leaving space enough between their meeting to admit the drainage-tube. In doing this, great care has to be taken to keep the hands and instruments which have touched the inside of the cyst from coming in contact with the peritoneum or abdominal wound. Again, in fastening the partially closed cyst to the abdominal wall, it is necessary to pass the needle from the abdominal wall into the cyst, and not use that needle again unless it is thoroughly cleansed. If, on the contrary, the sutures are passed from the inside of the cyst outward, septic material will surely be carried into the tissues of the abdominal wall, and trouble will follow. One suture on each side of the opening in the cyst for the drainage-tube will suffice to unite the wall of the cyst and the abdominal wall at these points, and one suture above, and one below, carried through the sides of the abdominal wall, and into the cyst-wall, but not through, will complete the coaptation. If this much is accomplished without contaminating the normal tissues there is very little danger of septic peritonitis occurring, or septic inflammation of the abdominal walls. The drainage is so perfect that though suppuration in the remaining portion of the cyst may go on, there is not much danger from it if it does not extend outside the sac. The drainage must be long continued, and the convalescence is very slow, comparatively. In case the secreting surface of the cyst has been thoroughly destroyed by suppuration the recovery is usually not long delayed. Contraction and closure of the cavity comes in a month or thereabout. If, on the other hand, the secreting surface is left, the discharge may go on for months; but the patient, meantime, may completely regain her health and be able to attend to her duties comfortably. When a small pocket and sinus remain, it facilitates recovery to inject iodine or carbolic acid. I may be prejudiced in favor of this mode of treating such cases from the fact that I have had two intraligamentous cystomata and four adherent ordinary ovarian cystomata which were treated by drainage, and all recovered.

THE ULTIMATE RESULTS OF LAPAROTOMY FOR THE REMOVAL OF DISEASED APPENDAGES.[1]

By H. C. COE, M.D.,

NEW YORK.

When the president made a personal request last fall that I would introduce a discussion on this theme I declined, saying that, in the first place, I was not a laparotomist, and that, in the second, it would be more fitting for an older and more experienced observer, such as are the gentlemen who will follow me, to assume this duty. When the request came through another channel I was induced to accept the responsibility, with the distinct understanding that the discussion would be rigidly confined to a statement of anatomical and clinical *facts*, and not to a rehearsal of individual triumphs in abdominal surgery. With these triumphs we are already sufficiently familiar. The brilliant results of our honored Fellows, Dr. Wylie, Dr. Mundé, Dr. Tuttle, and many others of whose success we are proud, need no additional words of approval; their statistics speak for themselves. The indications and contra-indications to laparotomy for removal of the adnexa we have discussed time and again. The changes on the subject of conservatism have been rung so often that professional audiences are beginning to weary of them. I dismiss this phase of the question entirely, and invite your discussion of the subject as announced, which is *not* the limitations of laparotomy for ovarian and tubal disease, *not* the number of difficult and successful operations which you have performed, but the condition of your patients a year, two years, or five years after recovery from the operation. I am aware that operators of the largest experience are often unable to trace the majority of their charity patients after they have been discharged from the hospital. It is for this reason that I have ventured to introduce this subject, in spite of my limited experience as a laparotomist, because it seems to me that the dispensary physician is in a better position to judge of the after-effects of laparotomy than is the distinguished surgeon whose interest in the patient often ceases as soon as he has written "R," after her name in his table of statistics. As I take it, the object of the present discussion is to decide the question whether the word "recovered" as applied to these cases is synonymous with "cured." By the "ultimate results" of laparotomy, I understand that reference is made to the condition of the patient after the lapse of at least a year after the operation, when it is fair to assume that the usual symptoms referable to the sudden and artificial establishment of the menopause (flushing, metrostaxis, various nervous phenomena, etc.) ought to have disappeared, or, at least, to have become endurable. This excludes certain secondary, or remote local complications, such as acute pelvic abscess, intestinal and vesico-vaginal fistula, fistulous drainage-tube tracts, mural abscess, ventral hernia, etc., which might be ascribed either to accidental causes or to some fault of the operator. We shall assume that the operation was performed strictly *secundum artem*, according to the most improved modern methods. Moreover, it will be impossible to discuss at length the results of removal of the adnexa on one side only, in spite of the interest attaching to this subject, as it would divert our attention from the main issue. Assuming that we have all had the most gratifying results follow laparotomy, as regards not only the actual preservation of the patient's life, but also her restoration from invalidism to perfect health, I shall confine myself entirely to a rehearsal of the permanent ill-effects which may follow even the simplest and least complicated operation, leaving it to you to explain why they occur, and how they may be avoided.

For convenience we may consider these under two general heads, viz.: 1, Psychical results; 2, physical results. Under the first should be included not alone the transient "psychoses," to which attention has recently been directed as sequelæ of gynecological operations, minor as well as major, but actual insanity. I do not feel competent to express an opinion upon this subject, as the facts at my command are too few to warrant it. In a recent conversation with a prominent alienist, he stated his belief that most of the cases of insanity reported as directly due to removal of the ovaries were open to suspicion, because a careful study of the patient's history would generally show that her mind was already so affected before the operation that she would probably have become insane even if it had not been performed. On the other hand, a gentleman connected with a large asylum stated, in a paper read by him not long since, that at least ten per cent. of the women whose tubes and ovaries were extirpated became insane in consequence. I am sure that this must be an exaggeration, at least I have never noted any such proportion, nor does any other author make such a sweeping statement. Careful observers do hold that there is a direct relation between the operation and the subsequent mental aberration which sometimes occurs. We ought under this head to consider the question of the "unsexing" of women by the operation, one which figured in a recent medico-legal case. We should settle this matter definitely so far as we are concerned. The physical results of laparotomy for removal of the adnexa may be general or local. Under the former are included the various neuroses which persist for years after the operation, circulatory abnormalities, such as true cerebral hyperæmia (to which I have called attention in a former paper), and various visceral disturbances, especially intestinal troubles due to adhesions. The latter I have considered elsewhere. All who have had occasion to perform laparotomy for the second time on the same patient, will agree with Martin as to the frequency of localized peritonitis in apparently aseptic cases. Peritonitis means adhesions, the influence of which on distant viscera I enumerated in a paper on "Visceral Lesions due to Localized Peritonitis." I can only touch on these points and leave their further consideration to you. I have been especially interested in the local, or intra-pelvic complications of laparatomy, yet this division of the subject is too broad to be covered by me in the brief time allotted, and as you are already tolerably familiar with my views I can merely outline my position, which is as follows: The persistent pelvic pain, congestion of the uterus (with or without a pseudo-menstruation), vesical and intestinal disturbances, which in a certain proportion of the cases are noted for years after removal of the tubes and ovaries, are directly due to intra-pelvic indurations or adhesions, which may have existed before the operation, or may be the result of localized peritonitis following it. If adhesions existed before the operation and are separated at the time, they are very apt to reform, especially the intestinal. Small indurations around the stumps, or in the broad ligaments, are sufficient in themselves to cause constant severe pains, both local and reflex, and to induce a more or less permanent pelvic congestion. Even when ventro-fixation of the uterus is practised, we cannot be sure that the organ will undergo post-climacteric atrophy. Intestinal adhesions are of common occurrence, indeed their absence is a matter of surprise when we consider the fact that the coils of gut must always lie in direct contact either with the stumps alone or (in complicated cases) with large, raw surfaces in Douglas' pouch, and on the posterior aspect of the uterus and broad ligaments. Such adhesions, even when slight, may give rise to severe and irremediable colicky pains; when more extensive, the patient is in constant danger of intestinal obstruction. When for any reason the adhesions around the uterus and adnexa are separated without removal of the latter, they unquestionably reform, either at the old, or at new sites. When diseased adnexa —a pyosalpinx, abscess, or adherent cyst—is emptied and fastened in an unnatural position, as in the abdominal

[1] Introducing a discussion of this subject before the N. Y. Academy of Medicine, March 6, 1890.

wound, even if the intestines do not become adherent to it, undue traction is made upon the pelvic organs (and especially upon the neck of the bladder), thus giving rise to permanent distressing symptoms. I can only add to this brief review of the possible local complications following laparotomy, that as yet we possess no sure means of avoiding them. Rigid antisepsis, absolute hæmostasis, cauterization of the stumps, and even of all new surfaces, the routine use of intra-peritoneal irrigation, and the removal of the water by siphoning alone, with the absolute interdiction of sponging, careful arrangement of the intestines and peritoneum before closing the cavity, early removal of the drainage-tube—all these precautions have been adopted, and yet intra-pelvic adhesions have formed, and that too in perfectly uncomplicated cases, in which the pelvis was absolutely free from adhesions when explored at the time of the operation. It seems to be practically impossible to predict that localized peritonitis may not develop in any given case, however favorable it may be. I dislike to dismiss this subject so abruptly, but my duty is simply to outline it, not to fill in the details. I trust that the discussion will be confined within the prescribed limits, as the introduction of outside issues will only complicate what is already a difficult question.

The following are brief notes of a few of my own cases, in which I have had the patients under observation since the operation. I might cite many more in which laparotomy was performed by other surgeons, and the patients subsequently came under my care on account of resulting troubles, but I do not think that it would be proper for me to do so.

Case I.—Mrs. W——. Laparotomy, October, 1885. Double intraligamentous cyst with pyosalpinx. Operation complicated by general intestinal adhesions. Cyst on right side enucleated and removed with the tube. Left tube removed and cyst drained and stitched in the wound. Good recovery. Patient still under treatment for persistent pain and dysmenorrhœa. Until recently was obliged to pass her water every hour or two. Severe vesical tenesmus. The uterus is drawn upward and is adherent to the left side of the pelvis, constant traction being thus exerted upon the neck of the bladder. I have treated her at intervals for over four years with only temporary benefit. Her discomfort has been such that she considered the advisability of submitting to a second laparotomy.

Case II.—Mrs. D——. Typical history of gonorrhœal salpingitis. Uterus retroflexed and firmly adherent, with double pyosalpinx. Constant pain and severe dysmenorrhœa. Was under regular treatment for over one year without benefit. Laparotomy, September, 1887. Adhesions broken up, appendages removed, ventro-fixation of uterus. Convalescence rapid. The patient was relieved for several months, after which the pain returned. I saw her about three months ago. She had not menstruated since the operation, but had the same pain in the back and abdomen as before, with marked vesical irritation. The uterus was small and anteverted, but there was considerable tenderness around the stumps. The patient was greatly depressed and in poor general health.

Case III.—Miss L——. The tubes and ovaries were removed in 1885, for the relief of dysmenorrhœa. Convalescence normal. She attended the Polyclinic regularly after leaving the hospital and subsequently remained under my constant observation in various institutions until her death in 1889. Though menstruation ceased, she was never free from pain after the operation, neither was I able to afford her any relief by the ordinary local treatment, including the use of galvanism. Persistent pain had been substituted for the monthly paroxysms. It was always localized in the right side, where an induration the size of a walnut could distinctly be felt. Constant and agonizing vesical tenesmus. Repeated examinations of urine with a negative result. One of her most obstinate and distressing symptoms was more or less constant cerebral hyperæmia—not the ordinary climacteric "flushing"—which grew steadily worse. She insisted on a second operation, which was performed by the late Dr. Hunter, and terminated fatally. The induration in question was found, but could not be removed. At the autopsy an indurated mass was discovered at the site of the right stump which pressed the ureter, causing pyonephrosis of the corresponding kidney. The uterus was latero-flexed and firmly adherent. It would have been impossible to cure the patient without performing nephrectomy, and the condition of the kidney was, of course, unsuspected.

Case IV.—Mrs. C——. Double pyosalpinx and chronic oöphoritis with firm adhesions. Laparotomy October, 1888. Rapid convalescence. Both ovaries removed. The patient still menstruates regularly and with more pain than she had before the operation. There is a large mass at the site of one of the stumps. Her condition is worse than before.

Case V.—Mrs. T——. Under constant treatment for nearly a year, and grew worse, rather than better. Both ovaries adherent in Douglas' pouch, enlarged and extremely tender. Constant pelvic pains, severe dysmenorrhœa, and menorrhagia. Laparotomy, December, 1889. Diseased tubes and ovaries removed. Patient made such a rapid recovery that she was up at the end of three weeks. She has precisely the same pains as before, and has a constant sanguineous discharge, but does not menstruate. The uterus is in normal position, but is large and sensitive to the touch. Marked tenderness around both stumps.

Case VI.—Miss O——. Was an unusually robust young woman. Laparotomy was performed for the relief of pelvic pain and dysmenorrhœa in December, 1888, diseased ovaries and tubes being removed. Convalescence normal. She was discharged apparently well, but came under my care in the clinic six months later, saying that she was worse than ever. Menstruation had ceased since the operation, but she had a constant agonizing pain in the left side, so that she was unable to walk. Constant severe frontal headache. On examination an extremely tender mass was felt at the site of the left stump, exactly similar to that mentioned in Case III. Life was a burden to her, and with her cheerful consent I opened the abdomen a second time about two months ago and found the mass as previously located. It proved to be a knuckle of intestine which was firmly adherent to the left stump. It was separated with considerable difficulty, and at imminent risk of tearing the gut. When freed, the adherent surface presented an ulcerated spot the size of a quarter of a dollar, with hard raised edges. The advisability of resecting the intestine occurred to me, but I finally decided to cauterize the ulcerating surface and return it to the cavity. Thorough irrigation and drainage. Convalescence uninterrupted. Bowels moved spontaneously on the second day. When examined a few days ago all trace of the induration had disappeared, and there was no local tenderness. The bowels are constipated and the patient has severe colicky pains, so that I suspect a fresh adhesion of the gut. The headache is worse than before the second operation.

Case VII.—Mrs. B——. Was operated upon a year and a half ago by a prominent laparotomist of this city. She had constant pain in the left side and dysmenorrhœa. Pyosalpinx and diseased ovary on the left side removed. After the operation the pain was transferred to the right side and was worse than before. Has had several attacks of localized peritonitis. I first examined her three months ago. There was general tenderness around the uterus, which was in normal position. To its right there was a mass the size of a Messina orange, exquisitely tender to the touch. Diagnosis, cystic ovary and pyosalpinx, which was confirmed at the operation a month later. The coils of intestine within the pelvis were generally adherent to one another and to the tumor; intestinal adhesions along the line of the former incision. The adhesions were thoroughly separated and the tube and ovarian cyst were removed, leading to profuse hemorrhage, which was

checked with difficulty. Irrigation and drainage. Rapid convalescence without elevation of temperature. The patient now complains of the same pain on the right side; on examination a tender induration can be felt at the site of the right stump; pressure upon which causes a paroxysm of pain which lasts for an hour.

Case VIII.—Mrs. A——, double pyosalpinx, removed in September, 1889. Convalescence normal until the second week, when there was a transient elevation of temperature, accompanied by severe pain in the right groin. Vaginal examination revealed an induration around the stump, which is still present after the lapse of six months, the patient having constant pain in the right side, which prevents her from attending to her household duties. She had no metrostaxis until three weeks ago, when she reported to me on account of profuse flow. I found the uterus small, in normal position, and quite tender to the touch; the induration to its right was smaller than it was two months before, but was still very sensitive. The patient was greatly depressed because she was no better.

I present the above facts without comment, and could easily double and treble the number of cases. If with my limited experience I have observed so considerable a proportion in which laparotomy is not followed by permanent benefit, at least so far as regards the relief of pain, those operators who number their cases by hundreds could, if they would, add much to our knowledge in this direction. Unfortunately, there is a singular reticence on the part of surgeons with regard to the ultimate results of their operations, provided that these are less successful than they expected.

So far as I am concerned, whenever this subject is introduced I shall never cease to insist upon this truth, which I have repeatedly demonstrated to my own satisfaction in the examining-room, at the operating-table, and in the dead-house—that recovery from laparatomy is *not* synonymous with cure.

MEDICAL CASES OF INTEREST.

By HENRY A. RILEY, Esq.,

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A recent interesting case in New York, involving the subject of insanity, decided some points of importance. The case was that of a son who petitioned the court to have his father declared a lunatic and unable to manage his property. The father was adjudged by the jury to be insane and to have been so for several years previous.

About a year before this verdict was rendered the father had deeded to his son an island in the Niagara River, containing about one hundred and fifty acres, on condition that the son support and maintain his wife and himself during their lives. It was claimed that the verdict of the jury in the lunacy commission case, to the effect that the father had been insane for several years, made the deed void, and it was further claimed that the son being the petitioner in the lunacy case was estopped from showing that the father was sane at the time of executing the deed. The Court of Appeals examined with some care the interesting questions involved in this incomplete statement of the case, and decided that the son, although the active mover in the lunacy case, was not such a party in interest as to prevent him from showing his father to be sane when he executed the deed. It was also held that the statement by the jury, that the party had been insane for several years, was incidental only, and not absolutely binding in another suit where the title to land was in question. In most lunacy proceedings the vital question is whether the person is at the present time insane.

The Nation recently reviewed Hon. Reuben Davis's "Recollections of Mississippi," and in the article are the following remarkable statements about the regard then felt toward human life, and the requirements of the Code: "In 1832 Mr. Davis passed from medicine to law and began its practice at Athens, with a young wife and but three dollars in his pocket. What a passion there was in the community for litigation is shown by the fact that in four years he had saved twenty thousand dollars. At the Spring Term of the County Court, in 1835, he brought four hundred and eighty suits. Made District Attorney, a frequent source of embarrassment was that in criminal suits the murderer was a personal friend, 'for whom he had respect and friendship,' and whom he thought 'justifiable under the circumstances of the killing.'

"Once when he had witnessed the murder, his embarrassment was so great that he went into court with five hundred dollars in his hand, with which he asked the court to furnish counsel for the prosecution.

"When another friend, shortly after, killed his man, Davis resigned his office, and tendered his services in his defence. He pulled him through.

"'Since that day,' he writes, 'I have defended over two hundred cases tried for murder, and never had the misfortune to have my man hung.' Could any statement be more expressive of the quality of mercy in the administration of justice? It is very clear it was not strained. Davis had never a doubt himself of a man's right to defend his person or his honor at the risk of another's life. With him it was a word and a blow, and if the blow was not first it was nearly simultaneous. He could not have been more than seventeen when he had his first personal encounter. There was a question of precedence of claim upon the attention of one of the ladies at a ball. 'I no sooner withdrew my adversary from the ladies than I challenged him to defend himself, and assaulted him with my pocket-knife. . . . This action I never regretted, holding that a man has a right to defend his honor whenever and by whomsoever assailed. Had I submitted tamely to this insult, my whole future career would have been blighted by it, and I should have lost all claim to the respect and good opinion of my fellow-citizens.'"

Since the time to which Mr. Davis refers there has been a great change in Southern sentiment regarding the necessity of protecting what is thought to be one's "honor" by the shedding of blood, and this change is very largely due to the different conditions of life prevailing since the Civil War. It will be many years, however, before it will be thought honorable in all communities not to avenge an insult by a bullet. So long as family feuds have so slight an occasion and so bloody a termination as in some of the mountain counties of Kentucky and West Virginia, within the past two years, it cannot be said that the rules of modern civilized life have universal sway.

So long as a dispute over a newspaper article leads a correspondent to shoot, in the very precincts of the National Capitol, a former member of Congress, it can hardly be thought that the ante-bellum ideas of "honor" have become obsolete; and so long as the brutal pounding of the prize-ring is regarded as a fine athletic exhibition by the best citizens of a Mississippi county, and the principals are aided in every way to avoid punishment, even the honorable efforts of a governor to secure conviction will not relieve the State from the stigma of brutality.

The New Jersey statute passed in 1886 provides that no person shall sell any oleomargarine, "unless he shall first inform the purchaser that the substance is not natural butter or cheese, but imitation," and shall also at the time of sale "give to the purchaser a card or notice, printed on which shall be the name of the substance sold, and the name and address of the seller or vendor.

In a suit to collect the penalties under this act, which were $100 for the first offence and $200 for a second or subsequent offence, it was claimed that the buyer was informed orally that the article was oleomargarine, though it was admitted that no printed card or notice was handed to the buyer. The failure to give this notice was held to warrant a recovery, the oral notice being insufficient. It was also claimed that it did not appear that the article sold

was deleterious to health, and that no deception whatever was practised on the buyer. This defence the Court held was not a pertinent one, as the statute made no distinction between different kinds of oleomargarine, but stated that the sale of any kind of oleomargarine or imitation butter was not permitted, except as specially authorized.

In general, it may be said that lack of knowledge on the part of the seller that articles sold are adulterated, will not free him from any penalties given in the statute. The seller is bound to know the character of the wares he sells. In a case decided a short time since by the New York Court of Appeals, where damages were claimed from a railroad company for an injury suffered when crossing the track, the Judge charged the jury that "the expenses of recovery as regards the past and the future" could be considered in deciding upon the amount of the verdict. It seemed that the plaintiff had not fully recovered from the injury, and though he did not prove the value of the medical services which would be required, nevertheless, the defendant did not ask for an instruction limiting the verdict to nominal damages. The Court said: "It may now be regarded as settled that the jury, in cases of this character, may take into account the pain and suffering that may reasonably be expected in the future, provided evidence has been given tending to show that the person injured will probably experience further pain as a result of the injury."

Clinical Department.

A CASE OF TREPHINING FOR FRACTURED SKULL—RECOVERY.

By GEORGE L. RICHARDS, M.D.,

EAST GREENWICH, R. I.

The following case is of interest on account of the severity of the injury produced by the throwing of a stone—a practice common among boys when angered—and also because of the excellent result following the operation of trephining.

In Apponaug, R. I., about 9 P.M., August 6, 1889, E. F——, aged sixteen, while engaged in a boyish quarrel with a negro was hit with a stone thrown by the latter. He instantly fell, and when picked up was unconscious. He was at once taken to the office of Dr. J. B. Hanaford, who found evidence of concussion of the brain and fracture of the skull.

Early the next morning there was partial consciousness, but this being all there was of gain, and the condition not improving during the day, I was called in consultation.

At the time I saw him, 4.30 P.M., August 7th, the boy was semi-conscious, unable to speak, and partially paralyzed on the right side. Over the left parietal bone, at about its centre, was a slight cut one-half to three-fourths inch long, one-sixteenth inch deep, which had bled a little. No other external mark was seen. On palpation just above the skin cut a sharp depression was felt. In every other direction this depression gradually diminished. Diagnosis—depressed fracture of the skull with compression of the brain. As he was growing rapidly worse we decided that the only thing to do was to cut down to the bone, and raise the fragments, trephining if necessary. The family consenting, the patient was etherized, and the head shaved and made as antiseptic as possible. I then made a semicircular incision, three inches long, over the centre of the left parietal bone, and to the bone. The skin flap being dissected up revealed a depressed comminuted fracture of the left parietal bone. Going from above downward, from sound bone, there was a sharp depression, the jagged edges of which were two and three-fourths inches long and three-eighths inch deep. From above downward it was one and three-quarters inch before sound bone was again reached. There were three comminutions of the depressed portion, one of them being still further depressed, so that its depth as compared with the normal condition was three-fourths inch. Hemorrhage over seat of fracture was but slight. A slight attempt at elevation was made, without success. The trephine was then used, and from the uninjured bone of the upper border a button half an inch in diameter was removed without injuring the dura mater. With some difficulty, owing to the slanting edges of bone being firmly wedged together, the depressed portions were elevated and restored to about normal position. A few splinters of bone were removed. The wound was then thoroughly cleansed with corrosive sublimate 1 to 2,000, the button of bone replaced, drainage-tube inserted, and wound closed with deep and superficial silk sutures, except at the lower margin, to allow of free drainage. Iodoform and an antiseptic absorbent cotton dressing applied. Toward the close of the operation the patient had a slight rigor and was given brandy, ʒ ij., and morph. sulph., gr. ¼, hypodermically. Pulse, 72 and good; the operation took about one hour.

The subsequent history of this case was all that could have been desired. The dressings, which were renewed at first every other day, and then at longer intervals, were never stained through, and the temperature never rose above normal. On August 9th, two days after the operation, the patient could sit up and was conscious, though swallowing with difficulty. He tried to talk, but could not. August 11th wrote his name. August 14th began to talk a little. August 23d wound had healed everywhere and stitches removed. August 27th drainage-tube removed; the patient was allowed to go out of doors; speech and deglutition all right.

September 12th in court, gait somewhat staggering; was able to give a very intelligible account of events up to the moment of injury, after which everything is a blank.

Dr. Hanaford tells me that in October he removed a spicule of bone which had worked through the skin; a bit of bone probably too much injured to regain its vitality.

The boy is now in good health and apparently as well as ever.

I am of the opinion that had we used absorbent gauze, and not changed the primary dressing for a week or ten days, it would have been as good, perhaps better, surgery, though no case could have done any better than did this one.

FRACTURE OF THE CONDYLE OF THE OCCIPITAL BONE.

By WALTER F. MORGAN, M.D.,

LEAVENWORTH, KAN.

April 21, 1889, I was called to see P. D——, a colored coal-miner, aged about thirty-five years. His wife gave the following history of the case:

About three years and four months since, he was injured in a mine by the falling upon him of a mass of slate, after which for a long time he was unable to turn his head to the right He partially recovered from this accident, and was able to resume the occupation of a coal-miner. Last December, about Christmas, while working in a mine, he was again injured in a manner quite similar to the accident before described, and was never able afterward to move his head in any direction or to work again in the mine. About February 25th symptoms of hemiplegia supervened, and soon he was obliged to take to his bed, from which he never arose.

Status presens.—Patient on back, with head rigidly fixed and turned toward the left, instead of right, as after the first injury. Eyes looked bright and natural, and the mind seems perfectly clear; appetite good. Paralysis of both upper and lower extremities on right side, involving sensory and motor fibres; on the left side the prick of a pin can be felt and the fingers, after massage, can be slightly flexed. There is little complaint of pain, except when clonic spasms occur, which happen at irregular in-

tervals. Patient allows no one to move his head except his wife, and then the whole body must be moved. When carefully questioned the wife thinks she has occasionally heard, in moving patient's head, a noise like the cracking of one's knuckle-joints.

I diagnosed fracture of one or more cervical vertebræ, and gave an unfavorable prognosis, and suggested a consultation, but the suggestion was not acted upon.

Two days afterward (April 23d), at about 5 o'clock A.M., his wife tried to move his head, when, suddenly, there was a yielding of the tissues of the neck, which entirely relieved all rigidity. At 9 A.M. the patient asked for some breakfast, and when his wife brought it, a few minutes later, he was dead. This sudden death was probably caused by an unguarded movement, producing compression of the cord.

Autopsy, twenty-four hours after death, Drs. Samuel Phillips and John J. Edic being present. Upon a vigorous rotation of the head no crepitus was elicited, but when a firm and sudden pressure was made upon the nucha—subject lying prone—crepitus became audible, the right transverse process of the atlas was found destroyed by caries, the articular surface of its lateral mass about half absorbed by the chronic inflammatory process to which the region had evidently been subjected, the right condyle of occipital bone in a condition similar to that of the transverse process of the atlas. A detached piece of bone was found, which had been a part of the condyle, presenting a groove corresponding to one-half of the anterior condyloid foramen. The axis was intact except the odontoid process, which was denuded of cartilage and roughened on one side. The check ligaments seemed to have become disorganized.

The patient had consulted several physicians, and had been treated for rheumatism. No one seemed to have made much effort to arrive at a correct diagnosis, and hence at correct therapeutics. "Wood's Handbook" mentions that rheumatic symptoms are occasionally associated with chronic inflammation of the spinal cord.

Aside from the intrinsic interest of this case, it is reported in the hope that it will be acceptable to the general practitioner, on account of its unique history and the probable rarity of this form of accident.

A SIMPLE METHOD OF CONTROLLING OBSTINATE EPISTAXIS.

By A. W. FRIDENBERG, M.D.,

NEW YORK.

Not very long ago a man walked into my office bleeding profusely from the right nasal cavity. He had had similar attacks on previous occasions, which were always very difficult to manage, and during one of them he had nearly bled to death, despite the efforts of the two physicians in attendance. He had finally to be transported to the hospital, where the hemorrhage was checked with the assistance of Bellocq's cannula. The present attack had lasted three or four hours, had resisted the usual means of treatment, and the patient declared he had lost a pint of blood. During the ten minutes or so that he had been awaiting his turn in the waiting-room, he had filled the bottom of a cuspadore to the depth of two inches with blood coagula. Despite his powerful physique—he was tall, and weighed about two hundred and fifty pounds—he showed signs of great weakness, was pale and exsanguinated, and breathed with difficulty through the mouth, the nose, from which blood rapidly dripped, being stopped up with clots. I seated him and packed his nasal cavity with absorbent-cotton pledgets, squeezed dry of carbolized solution, but without avail. The blood oozed through the firm packing. I removed the cotton, made him blow out the blood-clots, and introduced Goodwillie's nasal speculum, but failed to recognize the source of the hemorrhage, owing to the impossibility of wiping away the blood as rapidly as it welled up from the deeper recesses. What I did recognize, however, was the fact, that the man was rapidly growing weaker, and that he was in imminent danger of falling from the chair in a swoon. There was but one thing to do, and that was to cork up his nasal passages, anteriorly and posteriorly, without loss of time. I had no Bellocq's cannula, however, and there was no time to procure one. In this predicament I bethought me of a simple substitute for the Bellocq, which served me so well that the hope that it may render the same service to others, under the same embarrassing circumstances, must be my excuse for presenting this account of an otherwise very uninteresting experience. I had some rubber drainage-tubing, of assorted sizes, on hand, from which I selected a piece of small calibre, but of sufficient resiliency, about the thickness of a parlor match, and about ten inches in length. One end of this I introduced into the right nasal cavity, and pushed it along the floor of the inferior meatus, through the clots, until it reached the pharynx, whence it curled forward within easy reach of forceps, by which it was drawn out at the mouth, meeting the other end projecting from the nose. The subsequent steps were similar to those employed after the passing of the Bellocq cannula. To the mouth end of the tubing I attached a small, compact wad of elastic lamb's-wool, rolled in iodoform gauze, and, drawing upon the nasal end, I slipped the wad into the post-pharyngeal space and stretched the tubing until the cessation of all trickling of blood down the post-pharyngeal wall showed that the post-nasal aperture was occluded. Still keeping the tubing tightly drawn to its fullest extent, I rapidly packed the anterior nasal recesses with long strips of iodoform gauze to just within the nostril, all around the tubing. I now tied a knot in the rubber, close to its exit at the nostril, and through it passed a crosspiece of tubing of somewhat larger calibre, just long enough to fit easily inside the nostril. Finally, releasing the end of the rubber, its elasticity caused it to fly back, so that the knot and cross-piece rested upon and firmly held in place the anterior gauze-packing. The nasal cavities were thus firmly occluded at both outlets, without any external evidence of the tampon, or any unsightly bulging of the soft parts of the nose. The elastic tubing was at just a sufficient tension to support the packing without the least discomfort to the patient. After forty-eight hours hours it was easily removed, without recurrence of the hemorrhage, by slightly drawing the knot out of the nostril and cutting the tubing just behind it.

UNUSUAL MECHANISM IN SHOULDER DELIVERY.

Dr. James L. Kortright, of Brooklyn, reports the following case: Mrs. L——, aged twenty-two, multipara was delivered February 28, 1890, of a large male child. The only point of interest was in the birth of the shoulders. After the head was born, restitution took place, with the child's face looking toward the maternal right thigh, as is normal in first position of vertex. The anterior shoulder lodged above the symphysis pubis. Delivery was finally effected by the anterior shoulder rotating into the hollow of the sacrum and the posterior and lower shoulder passing under the pubic arch, so that the child's body made a complete semi-revolution and the face at last looked toward the maternal left thigh. In the revolution the face turned toward the bed.

There was recently raised, in this city, a question in connection with fees demanded for filling out death certificates in cases where litigation is a possibility. A patient died in the Bloomingdale Insane Hospital on whose life there was $20,000 insurance. The physicians of the asylum, it is said, refused to sign the certificates unless paid one-half of one per cent. of the insurance.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE LANGUAGE OF SCIENCE.

IT is not at all unlikely that an attempt will be made at the approaching Berlin Congress to secure the adoption of one language as the medium of communication in international scientific assemblies such as that will be, or at least that steps will be taken to consider the advisability of such a change. The Volapükists will doubtless be on hand to urge the claims of their step-mother tongue, and others will bring forward each his own native speech as the one best suited to the requirements of a universal language. The French have already put in a claim, for the question was discussed at some length, a year or so ago, in several of their societies, the conclusion of all being that there was no living tongue so universally understood in the world of science as well as in that of diplomacy and in that of society as the French, and therefore that should be adopted by all who met to discuss scientific subjects. In a little pamphlet recently published in this city,[1] English is offered to the world as the one language which, by reason of its simplicity and of its present wide diffusion, is destined to be the language of the future. But there is one obstacle in the way of its universal adoption, and that is the English orthography. The grammar is simplicity itself, the vocabulary is not difficult to any European, but the pronunciation and the spelling are like an ill-mated pair, always quarrelling and always opposing each other. To harmonize these two is the task which the author of this pamphlet has proposed to himself. But like Cinderella's sisters, he so deforms the foot in his effort to make it fit the slipper, that Prince Science would think twice before accepting such a muti lated bride. The author, as he tells us, is a foreigner, and we might have guessed as much, for no one whose privilege it is to possess the English tongue as his own by right of birth would have the heart to so distort it for the sake of others. It is because we love our tongue that we object to its mutilation or caricature, and we have no desire to see its general adoption as the language of science. We can imagine no greater torture than to be forced to attend an international congress in which all the foreign members were trying to speak English, and we were trying to understand them. We confess that we love the English speech too much willingly to see it suffer at the hands, or rather in the mouths, of strangers who bear it no affection, and employ it only as a useful servant, and not as one of the family. There is no language which is so well adapted to the purpose as Latin, and if it is necessary to have this but one tongue, let it be Latin. It has the advantage of being a dead language, and so long dead that there would be few mourners to grieve over the horrible mispronunciation and other abuse that would doubtless be heaped upon it.

[1] Sound English, a Language for the World. By Augustin Knoflach. New York: G. E. Stechert. 1890.

THE FEAR OF THE CORONER.

THERE is a curiously exaggerated notion among ignorant people as to the importance and dignity of the coroner, and it is seldom that anyone can be found who is bold enough or rash enough to touch the body of one who has met with sudden or violent death until the coroner or his deputy has "viewed the remains." This is doubtless well enough when the person is actually dead, but it is carrying it a little too far when, as actually happened the other day in Brooklyn, it operates to prevent the saving of life. Not long ago a young girl was found by her aunt hanging from the rafters of an out-house. When first seen she was still alive and struggling fearfully. Her aunt was too frightened to do anything but scream, and some of the women neighbors who were attracted to the scene actually prevented one of their number from cutting the poor girl down, saying that she could not be touched until the coroner gave permission. When the latter finally came the girl was dead. The coroner is always an object of dread and fear to these poor folks, but that this fear of him should lead a number of women to make not the least effort to save the life of one of their friends dying before their very eyes, is something almost incredible.

THE TOPICAL TREATMENT OF DIPHTHERIA.

THE question of the propriety of interfering in any way with the diphtheritic membrane is one of the many as yet unsettled points in therapeutics. There are still many who regard any attempt to lessen the amount of the membrane by topical applications as injudicious in the extreme; yet the tendency seems at the present time, under the influence doubtless of the microbic theory, to return to local treatment. We do not propose to review the subject of the topical treatment of diphtheria, or even to give a list of the numerous substances that have from time to time been employed in the hope of dissolving the false membrane. We desire only to direct attention to the use of pure salicylic acid for this purpose, as has been proposed by Dr. A. W. Nelson, of New London, Conn., who reports in the *Journal of the American Medical Association* a few cases successfully treated in this way. He applied powdered salicylic acid to the membrane, when the latter was accessible, and believed that he had had good results therefrom. The powder in some instances caused a little stinging pain at first, but this almost invariably disappeared after the use of the remedy had been persevered in for a time. Where the remedy was applied the membrane seemed to become thin and finally to disappear, returning again if the applications were too early discontinued. No irritation was produced to the healthy tissues beyond the slight smarting when the acid was first used. Dr. Nelson regards the remedy as superior to iron applications, as the latter harden the

membrane, while the former acts as a real solvent, and at the same time as an efficient antiseptic. It would seem to be worth a more extended trial than the author has yet given it.

BOYCOTTING THE INTERNATIONAL MEDICAL CONGRESS.

While the medical journals of England, America, Germany, Austria, Italy, Scandinavia and other countries are freely and gladly publishing accounts of the coming International Medical Congress at Berlin, the French medical journals are almost completely silent on the subject. We observe very few French names upon the lists of authors of papers, and, altogether, it looks as though the Doctors of France intended to "boycott" the International Medical Congress simply because it is to be held in Berlin, Such action would be most unworthy of the members of a liberal and learned profession, and would eventually do the French school serious harm in the eyes of the world.

NEW SCHEMES FOR PRELIMINARY EDUCATION.

Our esteemed contemporary, *The American Lancet*, which wreaks itself monthly in editorial interrogatories, has broken all previous records. A leader in the April issue has the following title: "Which shall it be: Three Years' Scientific Study before Beginning the Study of Medicine, Three Years' Scientific Study, Blended with Three Years' Medical Study, or the Equivalent to a Degree of Bachelor of Arts, before entering upon Medical Study?"

We learn that this tremendous aggregation of querying alternatives is based upon a report that the Faculty of Michigan University has been considering at several meetings the requirements of the medical course at the University. It appears that all parties grant the necessity of increasing the preliminary requirements of students entering the medical department.

The professors of the literary department desire that a preparation of about three years of scientific study be pursued in the literary department before the student can enter upon the medical course. Then, at the end of three years' medical course, the student be given two degrees—a M.S. and an M.D.

The second plan is from the Medical Faculty, who wish the students to carry during six years the studies of both the literary and medical departments, making a six years' course.

A third plan is being agitated that renders the degree of Bachelor of Arts necessary for entering upon the study of medicine. At this date it is not known which plan will prevail, but we join heartly with *The American Lancet* in hoping that some progressive action will be taken.

The Medical Society of the Missouri Valley.—A member of this Society writes that the meeting in St. Joseph, on March 20th and 22d, to which we referred in a recent issue, was the regular quarterly meeting, the Society having been organized over a year ago at Council Bluffs, Ia. The Association is in a very flourishing condition, having now a membership of over two hundred.

News of the Week.

The St. Louis Post-Graduate Medical School has gone out of existence as a separate institution, having become amalgamated with the Missouri Medical College. The collegiate course in the latter school has been lengthened to three years.

Nursery and Child's Hospital.—The position of assistant physician at the country branch of this hospital will be filled by competitive examination on May 15th There is a salary of $500 attached to the position.

The New York Post-Graduate School has received a bequest of $10,000 by the will of the late Senator St. John.

New Reception Hospitals for Upper New York.—The State Senate has passed a bill "for maintaining suitable places and wards for medical and surgical treatment of persons injured or taken ill north of the Harlem River, and south of 175th Street.

The State Care of the Insane Bill was signed by the Governor on April 15th, and is now a law. By the terms of the act all of the pauper and indigent insane in all the counties of the State, except New York, Kings, and Monroe, will be cared for and maintained by the State without any charge or expense whatever to the counties. The number of insane affected by this bill is a little less than 2,300, less than one-half of the whole number now cared for by the State. No asylums are to be built, as the State had before the passage of the bill adopted plans for, and entered upon the construction of, buildings in which 1,600 of the number to be cared for can be accommodated, leaving only 700 to be provided for by the erection of small detached buildings on the grounds of the present State asylums, at a cost of $550 per patient, or $385,000 for the whole number. Hereafter no pauper or indigent insane person can be returned from a State asylum to a county asylum.

The Pasteur Institute.—The New York Pasteur Institute was opened on February 18th, and from that date to March 31st thirty people applied for relief. Of these 9 were treated, and are at present in good health. In 3 cases hydrophobia was shown to exist by the results of inoculation of other animals with the spinal cord of the rabid dogs. Four of the patients were from New York City, 3 from Long Island, and 1 each from Maryland and Arkansas. The Institute is located at 178 West Tenth Street.

Brooklyn to be Sued by Physicians.—Twenty-two physicians who were employed on the summer vaccinating corps by the Brooklyn Health Commissioner, and who have not been paid for their services, have hired lawyers and had claims filed preparatory to suing the city. They have not been paid because the Civil Service Commission said they were irregularly employed. Commissioner Griffin employed them in an emergency, believing that he had full power to do so. There is no question as to the performance of the work charged for. The amount of the claim in each case is $120.

Cavaliere V. Capecchi, one of the leading Italian alienists, died at Florence in February last, aged eighty-eight.

The Late Sir William Gull left a fortune of over a million and a half of dollars.

Medical College Commencements.—Fort Wayne Medical College, March 11th, 7 graduates. Beaumont Medical College, March 20th, 23 graduates. Central College of Physicians and Surgeons, Indiana, 8 graduates. Medical College of Indiana, 28 graduates. Western Reserve University, Cleveland, O., March 5th, 30 graduates. Atlantic Medical College, 51 graduates. Southern Medical College, March 5th, 33 graduates.

The Alleged New Disease, "La Nona," which has been reported to be prevalent in Italy, is said not to be anything new at all. The cases on which the report was based were probably those of some peculiar results of the "grip."

Catholics and Cremation.—The Archbishop of Paris has informed the *curés* of his diocese that the Pope has forbidden Catholics to cremate their dead, or to belong to cremation societies. Catholic priests are therefore directed to refuse the usual rites when bodies are burnt.

Medicine not an Intellectual Profession.—The New York *Herald* publishes on Sundays articles from the pens of various medical men of different degrees of celebrity. Its last contribution, which was on the subject of heads and skulls, concluded with the statement that medicine was, as an intellectual calling, far inferior to the law, and that a body of lawyers presented a much more intelligent and intellectual appearance than a body of physicians. Will not some of our readers come to the defence of his calling? We recall Mr. Philip Gilbert Hamilton's interesting dissertation on the doctor, in his "Intellectual Life." Mr. Hamilton was kind enough to place the physician quite high in the ranks of intellectual workers.

The Brooklyn Homœopathic Hospital, situated on Cumberland Street near Myrtle Avenue, has recently been completed. It has a capacity of one hundred and thirty-five beds.

The Babies' Hospital, at the corner of Lexington Avenue and Fifty-fifth Street, is in a very prosperous condition. During a recent visit to the institution we were pleased to note the cleanly and admirable arrangements for the care of the little ones. Under the management of a ladies board, of which Mrs. Andrew H. Smith is the president, nothing is left undone to make it a model institution of its kind. There are at present twenty-two inmates, ranging from a few months to four years of age. The hospital is in need of funds from the charitable, and no more worthy object for contributions can be named in connection with the care of the really sick and needy.

Justice to Hospital Graduates.—Dr. R. Ellis, of Danbury, Conn., writes: "The MEDICAL RECORD of April 5th contains an article headed 'Justice to Hospital Graduates.' I am very certain many medical men will oppose the plan of adorning the names of hospital graduates with the title of H.G. Medical men very well know that titles do not necessarily mean ability; in fact, the possessing of degrees is so common and so easily obtainable that our best medical men sign themselves simply M.D. It is safe to say that not one physician in ten has served as hospital interne. Are the other nine inferior to him? Not necessarily. Several have taken post-graduate courses at home or abroad, and are acknowledged to be better practitioners than our hospital graduate (H.G.). Then why not give them the degree of P.G.G. (Post-graduate-graduate)? And here is the last man of the ten, who possesses neither capital nor environment, but by hard study and attendance at clinics, etc., he has made himself, as his future shows, the best practitioner of all. Why not give him the degree of C.G. (Clinic Graduate)? Medicine has to-day so differentiated that a hundred paths lie open to a graduate in medicine, of which the hospital is one. Why favor this class with an unnecessary title? Hospital graduates daily meet non-hospital men who are greatly their superiors. Let our colleges and medical schools give degrees gained only by hard work, and let the matter end there, else our medical men will be labelled thus: H. Hawthorn Blowhorn, A.B. (Yale); M.D. (Harvard); H.G.M.S. (Presbyterian Hospital Graduate Medical and Surgical); P.S.K. (Pathologist Student under Koch); P.G.S.B.P. (Post Graduate Student, Berlin, Paris); P.E.W. (Prize Essay Writer)".

Medicine and Politics.—Among the jobs defeated in the Maryland Legislature, says *The Civil Service Reformer*, was an attempt to increase the number of managers of the State Insane Asylum with a view to obtaining a majority willing to turn out the efficient and able Superintendent, Dr. Gundry, and provide a place for a politician. The only reason suggested for the proposed change was that Dr. Gundry was a Republican. No more barefaced piece of spoilsmongering than this could be conceived, and its failure is a cause for congratulation.

Death from Bromide of Ethyl.—A somewhat important case is now before the Berlin courts, in which a dentist is charged with having caused the death of a patient by means of an anæsthetic. The patient was a lady, and the dentist entrusted his pupil, whose age was under seventeen, with the administration of bromide of ethyl. Of this about an ounce was administered, together with four of five drops of chloroform. The patient is stated to have recovered completely from the effects of the anæsthetic, and to have felt quite well during the remainder of the day. The next day, however, she died, and a commission of medical experts has been directed to report upon the matter.—*The Lancet.*

Mr. Gladstone's Head is said by his English Liberal admirers to be growing larger. The same legend states that Napoleon's head increased in size up to the age of forty-five. The stories are both preposterous and impossible. After thirty, at the latest, the head only grows larger from bony disease.

Leprosy in Indiana.—The newspapers report that there are two well-defined cases of leprosy near English, Ind. The patients are father and son.

A Physician Sues a Temperance Advocate.—Dr. F. A. Barnett, of Lebanon Junction, Ky., has sued the editor of a temperance journal for libel on account of an article charging him with trafficking in liquor under the guise of prescribing it for his patients. The doctor denies these statements, and charges that they were maliciously made. He denounces the statements as false and libellous, and asks to be awarded a judgment for ten thousand dollars for the damage which he has sustained in his church and his profession by reason of the publication.

Fever Thermometers.—We once reported the case of a man who swallowed his fever thermometer, mistaking it for a pharmaceutical compound. The *Northwestern Lancet* chronicles some misconceptions of this instrument almost equally great. It says: Fever thermometers are not generally supposed to be difficult instruments to handle, but that there are some physicians who are a little mixed about the ends of the thermometer, if not of the patient, is shown by the following letter accompanying an order for a fever thermometer upon leading St. Paul dealers in surgical instruments:

"*Dear Sirs:* As there is some dispute among doctors as to the use of clinical thermometers, will you please tell me: 1st. Do you place the bulb or the end that contains the mercury in the mouth or the other end? 2d. If so, is there any kind made where you place the other end in the mouth? If you will answer me you will oblige."

Money for the Talk.—An Irish physician was called to see an Irish woman, but prescribed no medicine. The woman objected, and, when he asked for his fee, she answered, "Be jabbers, and for phwat?" His quick reply was, "Faith, and for the talk I gin ye."

New York Infant Asylum.—Dr. George T. Elliott has been appointed Dermatologist, and Dr. W. R. Townsend Orthopædic Surgeon to the New York Infant Asylum, located at Sixty-first Street and Tenth Avenue, and Mount Vernon, N. Y.

Dr. Herbert W. Moorehouse, of Danville, Ill., has been appointed chief surgeon of the Wabash Railroad system.

Charges against an Insane Asylum Management.—A Pittsburg daily paper has brought charges of cruelty against the management of the Western Pennsylvania Hospital for the Insane at Dixmont, which, it is said, will result in a legislative investigation.

A Death under Chloroform occurred on March 26th in Columbus, O. The patient was a man, fifty-six years old, who had been thrown from a wagon and sustained a fracture of the thigh. Chloroform was given preliminary to a reduction of the fracture, but death took place before the operation was begun.

Dissecting Material Scarce in Kentucky.—A party of Louisville grave robbers was recently interrupted in an attempt to obtain bodies from the cemetery at Anchorage, near that city. This is the second time that such a party has been apprehended recently. It is said that Kentucky and Georgia are the only two States in the Union that have not a law giving to the medical schools the dead bodies of paupers which are not claimed by friends, and an effort is being made to have such a law passed by the Kentucky legislature.

Removal of a Large Portion of the Stomach with Gastro-enterostomy was successfully performed April 10th, at the New York Hospital, by Dr. W. T. Bull. The patient was a woman, twenty-nine years of age, who had suffered for several months with nausea, occasional vomiting, and epigastric pain. She had lost much flesh, and a tumor of the size and shape of the kidney was plainly felt halfway between the ensiform appendix and umbilicus. On opening the abdomen by a median incision, an ovoid carcinomatous tumor was found to involve the greater curvature and posterior wall, extending from the pylorus, a distance of five or six inches outward. After ligating the gastro-hepatic and gastro-colic omentum, the tumor was removed, together with the pylorus, and about one-quarter or one-third of the pyloric end of the stomach. The cut end of the duodenum was then sutured so as to form a blind pouch, the stomach likewise treated, and an anastomosis made with the jejunum near its commencement, by means of Abbe's catgut rings. The operation lasted three hours and a half. There was a serious fear of prostration at the end of the second hour, but at its close the patient rallied. All food by the mouth was withheld till the fourth day. There have been no untoward symptoms whatever, and the temperature and pulse on the seventh day are normal; liquid food has been taken freely and the bowels have moved spontaneously.

Attempt to Burn a Hospital.—An insane patient confined in the Montevue Hospital, in Frederick, Md., attempted to set fire to the building recently. He scraped the plastering off the partition wall in his room with a spoon, and, pulling out several laths, broke them into kindling wood. Forcing the door, he seized a lantern hanging in the hall, and with it ignited the kindling. The smoke soon filled the corridors, and in this way the fire was discovered before it had done any damage.

Obituary.

PROFESSOR HENRY H. SMITH,

PHILADELPHIA, PA.

Professor Henry H. Smith died at his residence in Philadelphia, on April 11th, aged seventy-four. Professor Smith was a well-known surgeon, and his contributions to medical and surgical science gave him a distinguished position in the profession. He was born in Philadelphia, December 10, 1815, and studied medicine with Professor W. E. Horner, graduating from the University of Pennsylvania in 1837. The two years following he visited London, Paris, and Vienna, and made a study of the hospital systems in those cities. He returned in 1841, and instructed private classes in surgery.

At the beginning of the Civil War he was appointed to organize the Hospital Department of Pennsylvania, and at the same time was made Surgeon-General of Pennsylvania. In this capacity he contributed much to the efficiency of the medical service of the Pennsylvania Reserve and other State regiments. At the first battle of Winchester, Va., he originated the plan of removing the wounded from the battle-field to large hospitals in Reading, Philadelphia, Harrisburg, and other cities, and established the custom of embalming the dead on the battle-ground.

He organized and directed a corps of surgeons, with steamers as floating hospitals, at the siege of Yorktown, and served the wounded after the battles of Williamsburg, West Point, Fair Oaks, Cold Harbor, and Antietam. After thoroughly organizing the department of which he was in charge, he resigned his commission in 1882, and was since actively engaged in the practice of his profession.

He wrote and published several works on surgery, among them being an "Anatomical Atlas to Minor Surgery," which was republished four times. He was also the author of a "System of Operative Surgery," "Practice of Surgery," and a number of medical works, which have received high praise.

He was surgeon at the Episcopal and St. Joseph's Hospitals, and the Blockley Almshouse, and in 1855 he was Professor of Surgery in the University of Pennsylvania.

Reviews and Notices of Books.

History and Pathology of Vaccination: A Critical Inquiry. By Edgar M. Crookshank, M.D., Professor of Comparative Pathology and Bacteriology in, and Fellow of King's College, London. Philadelphia: P. Blakiston, Son & Co. 1889.

Professor Crookshank has accumulated a vast amount of instructive, suggestive, and interesting matter upon the above subject, and has presented it in two handsome volumes. In order to clearly state the author's views we quote from page 463, Vol. I.: "As the result of an investigation into the history, and especially the pathology of vaccination, I feel convinced that the profession has been misled by Jenner, Baron, the reports of the National Vaccine Establishment, and by a want of knowledge concerning the nature of cow-pox, horse-pox, and other sources of vaccine lymph. Though in this country vaccine lymph is generally taken to mean the virus of cow-pox, yet the pathology of this disease and its nature and affinities have not been made the subject of practical study for nearly half a century. We have submitted instead to purely theoretical teaching, and have been led to regard vaccination as inoculation of the human subject with the virus of a benign disease of the cow, whereas the viruses in use have been derived from several distinct and severe diseases in different animals." Again, on page 464, Vol. I. may be found these statements: "Jenner's substitution of cow-pox inoculation (for small-pox inoculation) was a purely empirical treatment, based upon folk lore, and involved a totally different pathological principle—the protection from one disease by the artificial induction of a totally distinct disease—a principle which was not, and has not been since, supported by either clinical experience or pathological experiments."

Then comes an assertion which will surprise some of our readers, namely: "Inoculation of cow-pox does not have the least effect in affording immunity from the analogous disease in man, syphilis, and neither do cow-pox, horse-pox, sheep-pox, cattle-plague, or any other radically dissimilar disease, exercise any specific protective power against human small-pox." In order to support these allegations he furnishes evidence obtained from letters and statistical papers, prepared by men, professional and non-professional, who were contemporaneous with Dr. Edward Jenner, and it will amply repay any inquirer after the truth to study most carefully these various letters and papers, to satisfy the questionings of his own mind with reference to the conclusions arrived at by Professor Crookshank. Birch's reasons for objecting to the practice of vaccination are quoted in extenso. He says: "Can anyone disprove the three following: That vaccination has been too often fatal; that vaccination has introduced new disorders into the human system; that vaccination is not a perfect security against the small-pox?" He further states that the Jennerian committee confessed that many cases of inoculation with cow-pox virus developed subsequently the small-pox. Attention is likewise called to the fact that not a few milkers who acquired cow-pox accidentally became infected with small pox afterward when exposed to its contagium. The following conspicuous case is reported in support of the above theories and assertions. In 1811 Jenner was called to London because of the development in the person of the Hon. Robert Grosvenor of a violent attack of small-pox, he having been ten years previously inoculated with the cow-pox by Jenner himself.

On the other hand, there is considerable testimony which leads us to discredit in large measure the above and believe that vaccination does protect against small-pox. Woodville is quoted as saying: "It has been asserted that persons have had the small-pox after having been affected with the cow-pox, and some facts have been published with a view to show that instances of this kind have actually happened. But all these, as far as I have seen, have been very defective in not affording sufficient proof that the affection, supposed to have been the cow-pox, was in reality that disease. On the other hand, the instances which have been brought forward to prove that those who had undergone the genuine cow-pox resisted the infection of the small-pox are unquestionably decisive, and sufficiently numerous to establish the fact in the most satisfactory manner. This circumstance, then, appears to be as much a general law of the system as that a person having had the small-pox is thereby rendered unsusceptible of receiving the disease a second time." Thus, much may be said on both sides, although the unprejudiced and impartial critic will incline to the opinion that insufficient proof has as yet been given of the inefficiency of vaccination. Professor Crookshank has, however, placed the profession under great obligation to him for furnishing them with such a mass of unusually interesting and helpful literature upon a subject about which physicians should have greater knowledge. These books are specially interesting, because they contain the fac-simile of an unpublished letter from Jenner to Mr. Head, and a fac-simile of the first folio of the manuscript of Jenner's original paper. There are also beautifully colored plates, showing casual cow pox, natural horse-pox, inoculated syphilis, variolation of the cow, phagedænic ulceration in natural cow-pox, natural horse-pox simulating aphthous stomatitis, and roseola of cow-pox.

A Text book of Physiology. By M. Foster, M.A., M.D., LL.D., F.R.S. Fifth edition. Part II., Book II. 8vo, p. 846. London & New York: Macmillan Co. 1889.

The present volume, being Part II. of the fifth edition of this classic work, treats of some of the most important apparatus of the human body, and is consequently invested with great interest to the practitioner. The tissues and mechanism of digestion are first considered, with their proximate and ultimate bearings on nutrition and are arranged for consideration under the headings of saliva, gastric juice, bile, pancreatic secretion, succus entericus, the lymphatic system, respiration, urinary secretion, sweat, animal heat, and diet.

Covering such a wide range of subjects within a comparatively small compass we have, however, presented to the reader the essential and salient points for a thorough comprehension of the complex phenomena of tissue metamorphosis and its bearing upon nutrition. The relations of the different functions to each other and their interdependencies are systematically treated and leave nothing to be desired for the earnest student who wishes to keep abreast of the present advanced state of the science. The style is terse and perspicuous and gives an extra force to convictions based upon wide and varied experimentation.

Diseases of Women and Abdominal Surgery. By Lawson Tait, F.R.C.S. Edin. and Eng., LL.D., etc. Vol. I., pp. viii., 547. Philadelphia: Lea Brothers & Co. 1889.

The appearance of this, the most elaborate of Mr. Tait's literary productions, increases our admiration for the tireless worker whose busy pen keeps pace with his phenomenal activity in abdominal surgery. We are prepared for a somewhat aggressive tone in this volume, nor are we disappointed. The preface is itself a challenge to "the old-fashioned mechanical school, the teaching of the speculum, the sound, the caustic stick, and the pessary," which, as the author confidently remarks, "has been practically killed." Other remarkable statements appear in the preface, among which we read that "gynecology and obstetrics are now happily (?) severed, and this division of labor has resulted in enormous advances for both." In short, the reader would naturally infer from this introduction, that outside of abdominal surgery there is little in the treatment, of diseases of women which de-

serves more than a passing notice. We submit that this is a most unfortunate prelude for a work which is commended to the profession as the latest authority on gynecology, and the author must not be surprised at the criticism which he manifestly invites.

The wide scope of the work is indicated by the "table of the organs concerned," in which are included under no less than twelve heads some structures which can hardly be regarded as "organs," viz.: The "mons veneris, vulva, vagina, urinary tract, uterus, broad ligaments and mesentery, Fallopian tubes, ovaries, pelvic bones, liver and gall-bladder, kidneys, spleen, and pancreas, colon, rectum, cæcum and small intestines, and breast." So far as we can determine, without the aid of a much-needed table of contents, the present volume alone deals with affections of the pelvic organs, and is practically a combination of the author's earlier work on diseases of women and his more recent monograph on diseases of the ovaries, with such omissions and additions as would be expected from a writer of his progressive tendencies. Pathology, diagnosis, and treatment are sadly jumbled together, but out of the heterogeneous mass the reader can extract numerous original and valuable suggestions, such as cannot be found elsewhere. In the opening chapter, upon diseases of the external genitals, we note several pages on the clitoris, in which the author takes occasion to make a kind and generous apology for the error of Baker Brown, whose severe treatment at the hands of his professional brethren was certainly "a matter of regret."

No American gynecologist can approve of Mr. Tait's strong statements on the subject of pelvic examination. They are certainly not calculated to aid the beginner. When we read that the bimanual method is never required except for the diagnosis of disease of the uterine appendages, and that "in the great majority of instances even here, in the case of the experienced gynecologist," it is "unnecessary," we cannot but feel that serious errors can hardly be avoided by the less experienced, who would venture to open the abdominal cavity on the strength of such a superficial examination. "If a man cannot do his work with Ferguson's speculum, occasionally replaced by the duck-bill, he ought to give it up. A workman who needs complicated tools is an inefficient one or a quack." This is rather hard on some of us who follow the teachings of Sims and yet dislike to be included under the latter category. The brief section on the urethra and bladder is so superficial that its omission would have been desirable.

Chapter IV., on the uterus, is remarkably comprehensive—and unsystematic. One can only infer after a review of the ten pages on displacements that non-surgical gynecology is *not* the author's strong point. According to his view, there has been no advance in the study of displacements since 1848. "I hate pessaries," he frankly admits, "and I never use them if I can help it." We would hate them too if we were limited to the instruments which he figures. There are a few others, thank heaven! "Nothing more useless than Emmet's operation has ever been introduced into surgical practice," is another compliment, more vigorous than courteous, which our author pays to his American friend. So-called laceration of the cervix is only an "innocent fissure," the repair of which can have no influence upon subinvolution, Mr. Tait's "routine treatment for which, and all its complications for the last eighteen years, has been chlorate of potash, five grains thrice daily, ergot to be added during, and for two or three days before, menstruation." Ninety per cent. (!) of his patients are cured by this beautifully simple treatment.

After presenting at length his statistics showing the results of the operative treatment of fibro-myoma, the author dismisses with a few contemptuous expressions the claims of Apostoli and his followers, making no mention of the honest work of Keith, whose reputation for accuracy of observation and, above all, for veracity will certainly outlast that of his Birmingham *confrères*.

With Chapter V. we plunge into abdominal surgery—a thrice-told tale—with a suddenness which indicates how little interest the author feels in minor surgical gynecology and how willingly he turns to a nobler theme. We need not review this portion of the book, since the reader is already sufficiently familiar with the subject matter, and especially with the statistics, which have not been as a "candle put under a bushel." They have already been allowed to speak for themselves—early and often. Whenever the name of any authority who ventures to differ from Mr. Tait is mentioned, it is in terms which are strong, not to say abusive.

As we intimated at the outset, it is difficult to characterize such a work as the one under consideration. Every page abounds in contradictions. Side by side with bright, original thoughts are the most reckless, discourteous criticisms of the work of men whom the profession delight to honor. Valuable suggestions in surgery, which the reader willingly accepts as distinct additions to that art, jostle wild pathological theories based entirely upon the author's *ipse dixit*, which reason and common sense alike impel him to reject. Mr. Tait will never be recognized as either a pathologist, or a gynecologist in the true sense of the term. His position in surgery is now clearly defined.

Nothing more can come from his prolific pen which will change our opinion regarding his strong and weak points. For this reason, we do not believe that the present ambitious work will either add to or detract from his reputation.

Syllabus of the Obstetrical Lectures in the Medical Department of the University of Pennsylvania. By Richard C. Morris, A.M., M.D., Demonstrator of Obstetrics, University of Pennsylvania. Pp. 154. Philadelphia: W. B. Saunders.

This modest little compend is so far superior to others on the same subject which have previously appeared that we take pleasure in calling attention briefly to its excellent features. Small as it is, it covers the subject thoroughly, and will prove invaluable to both the student and the practitioner as a means of fixing in a clear and concise form the knowledge derived from a perusal of the larger text-books. The author deserves great credit for the manner in which he has performed his work, which he modestly terms a compilation. He has introduced a number of valuable hints which would only occur to one who was himself an experienced teacher of obstetrics. The subject matter is clear, forcible, and modern. We are especially pleased with the portion devoted to the practical duties of the accoucheur, the puerperium, care of the child, etc.

The paragraphs on antiseptics are admirable; there is no doubtful tone in the directions given. No details, however insignificant, are regarded as unimportant. For example, the exact number of articles in the baby-basket, the precise amount and character of the nourishment to be given to the infant from week to week, the care of the nipple—none of these minor matters is omitted. We venture to say that even the old practitioner will find useful hints in this direction which he cannot afford to despise. We are happy to add that the book is not designed as a short cut to "cramming" for examination. It would be well if this practice were discouraged in New York by inauguarating such a method of practical examinations that it would be impossible.

The Emperor of Germany's Ear.—It is said that the Emperor of Germany is again troubled with his otitis, and to such an extent as to deprive him, on account of pain, of much sleep. The discharge is quite profuse, necessitating the use of a cotton plug. The continuance of such a condition is fraught with grave apprehension, and may necessitate operative interference.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 20, 1890.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

The Use of Physicians' Names by Manufacturers in Advertising.—DR. A. JACOBI rose to a question of privilege, and stated that the firm of Eimer & Amend, who manufactured Seibert's apparatus for the sterilization of milk in artificial infant-feeding, had refused to heed his request, although his letter had been honored by Dr. Seibert, to erase his name from the circular distributed with this apparatus. It was his position that every article of merchandise must stand upon its own merits, and in making this public announcement in condemnation of the course adopted by the firm mentioned, he hoped it would serve as a warning to others.

The Relation of Peripheral Irritation to Diseases.—Such was the general subject for discussion, several phases of which were taken up by different authors.

The Relation of Ocular Irritation.—DR. D. B. ST. JOHN ROOSA read a paper with this title (see p. 429).

The Relation of Naso-Pharyngeal Irritation.—DR. BEVERLEY ROBINSON treated of this phase of the subject (see p. 434).

The Relation of Reflex Neuroses.—DR. M. ALLEN STARR read a paper on this phase of the subject. The active part of the nervous system was the gray matter; the white matter merely carried impulses to and from it. This gray matter was collected in three quite distinct masses—the spinal and medullary centres, the basal ganglia, and the cortex. In the entire vertebrate species it was possible to assign to these distinct masses different functions: to the spinal and medullary centres, reflex action; to the basal ganglia, automatic action; to the cortex, conscious and voluntary action. In dealing with reflex disturbance it would, therefore, at first appear that we were to be limited in our discussion to affections of the spinal cord and medullary centres. These must certainly be considered, but we were not thus limited, for each lower system was under constant control of the one above it. Hence disturbance of reflex action might be brought about by anything which either increased the normal inhibitory action of the higher centres or removed that action, as well as by disease of the reflex centres themselves. Examples of reflex activity were seen in sneezing, winking, swallowing, coughing, vomiting, flushing of the skin when exposed to changes of temperature, regular respiratory and cardiac movements, vascular tone, besides so-called tendon and skin reflexes. Without such reflex action the balance of supply and demand in the human economy would be impossible and life would cease. A power of quick and appropriate response to normal or abnormal irritation was a natural power of the lowest masses of gray matter, and he was unable to find any evidence from the study of disease that the exercise of this power was in any way detrimental, or that any over-action of these reflexes was harmful.

This power might be interfered with in several ways, as by certain drugs, by meningitis, traumatism, etc. But the reflex mechanism was too important and too stable to be affected by little irritants, otherwise life would be put in constant danger.

Turning to other causes of disturbance of reflex function than different forms of irritation, they existed in defective control by higher centres. The act of control must be constantly exerted in order to preserve the balance of power and the proper harmony of action in the nervous system. A slight defect in central control produced wide-spread and serious results. In diseases known as reflex neuroses, in which there was no real defect in reflex action, but only an undue or inharmonious reflex activity, the actual origin of the disease must be either in an excess of activity in the lower centres, or a defect of control in the higher centres. Now, it had been shown that an excess of activity was commonly called forth only by very severe causes; while a defective control might come from slight ones. It was his opinion that, in the various reflex neuroses in which peripheral irritation was the actual cause, nature indicated that fact by attracting attention to the seat of irritation by discomfort and pain. And when, as in very many cases, the source of irritation was by no means evident, was only found, or supposed to be found, by extraordinary effort, the probability was largely in favor of the assumption that the reflex neurosis was not produced by any direct peripheral irritation, but was the manifestation of a slight or serious defect of control by higher centres, due to their impaired nutrition and consequent impaired activity.

In his own experience he was sure that a very large majority of the patients who presented symptoms of reflex neuroses had been exposed to influences which undermined the strength and nutrition of the entire nervous system, were to be regarded as suffering from functional or organic disease of the highest, most complex portion of the nervous system, and were not merely the victims of irritation in some peripheral organ. This view applied to so-called uterine reflex neurosis, to eye-strain, etc. A serious strain of the intra-ocular tension, such as occurred in astigmatism and hypermetropia, gave rise to discomfort, to voluntary effort, to strain the eyes in using, to effects upon, not the centres governing ocular motion, but upon the conscious voluntary centres of the cortex, the centres of highest evolution which were most susceptible to slight effects. The result was cortical exhaustion, similar to that produced by uterine or ovarian pain, or by pain anywhere, or by mental shock or worry. The trouble was not spinal, was not reflex, but was cortical. Thus, while peripheral irritation might produce nervous symptoms, it was not directly through the lower centres, it was not by exciting reflex action, but was rather by producing exhaustion of the highest conscious centres which controlled the entire nervous mechanism. Therefore, in treatment do not be satisfied with merely removing the peripheral irritation, but increase the nutrition of the entire system.

Stability of the Ocular Muscles the Exception.—DR. C. S. BULL discussed Dr. Roosa's paper, with which he agreed in all respects. He also had found that perfect equilibrium of the ocular muscles was seldom present, even in the healthy individual; in fact, in one subject he had found it vary at each of six examinations made during the twenty-four hours. Asthenopia was almost invariably due, in healthy and not over-strained subjects, to some uncorrected error of refraction, in most instances to some form of astigmatism or hypermetropia. He hoped the sad chapter on operations for ocular insufficiency as a cause of reflex diseases had been concluded.

A Middle Ground.—DR. C. C. RICE discussed the second paper, and said he thought Dr. Bosworth was the gentleman who should have a hearing after Dr. Robinson, for it was his views which had been attacked. Perhaps one reason for the difference in frequency of nasal disease in cases of hay fever and asthma, according to whether they were seen by Dr. Robinson and the general practitioner, or by the specialist, as Dr. Bosworth, was the fact that only such patients as had nasal disease usually consulted the rhinologist. In some cases the nasal affection might be chronic and constant, as when a permanent obstruction existed, causing attacks of asthma at any season of the year; in others the nasal symptoms might be manifest only when pollen or other irritant was in the air. The speaker also referred to symptoms referable to the eye and elsewhere, relieved by the treatment directed to the nose.

Further discussion on the subject was postponed until the first meeting in May.

National Association of Railway Surgeons.—This association will meet in Kansas City, Mo., May 1st, and will be in session three days.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, March 7, 1890.

FRANCIS P. KINNICUTT, M.D., PRESIDENT, IN THE CHAIR.

DR. V. P. GIBNEY presented two patients, the first illustrating "Artificial Feet in a case of Arrested Development."

The young lady whose case I present this evening was treated by Dr. James Knight many years ago, and was published by him in his work on "Orthopædia." The notes of the case taken from this book are in substance as follows:

"She was twenty months of age at the time she came under observation. The legs were held flexed upon the thighs, and the thighs upon the abdomen, while the thighs themselves presented an extraordinary degree of development. The length of the legs was about three inches, the feet being of ordinary size, yet having only three toes on each. The distance from the tuber ischii to the posterior extremity of the os calcis measured four inches. There was no appearance of a knee-joint. The ankles had free motion, and the thighs were seemingly movable upon the pelvis. Abduction was apparently normal. A subcutaneous myotomy was done on the posterior aspect of both legs, two inches from the insertion of the muscles into the os calcis. Moderate extension was applied. The deformity yielded slowly, and soon imperfect knee-joints were discovered. A second tenotomy was performed on the leg, and, at the end of another year, by persistent traction, the position of the limbs was so improved that the child could stand erect. The feet were much everted, however, and the Achillis tendons were shortened, so that both feet were in marked valgus. The upper limbs presented arrested development below the elbows, the right limb being much longer than the left. There were rudimentary digits on the right side, a single digit on the left."

The patient gained more use of her limbs as time went on, and for many years it was my privilege to fit her with club-foot shoes. It required pretty nice adjustment to make her at all comfortable, and in 1888 she referred to me for further relief, and I advised her to consult Freese, the artificial limb maker, who fitted her with a pair of artificial feet with which she has been able to get about with much more comfort than she ever did previously. The limbs were thus lengthened sufficiently to give her the present height, that of a woman of medium size, or rather, a little under the medium size. The artificial limbs, you will see, are made so that the natural feet rest in a pair of stirrups fully extended, and to these stirrups the remainder of the apparatus is attached. The facility with which she can use her hands is surprising. She has only this evening entertained me with some music. She writes very legibly, does needlework, and paints.

The second was "A Case of Ostitis Deformans, or Paget's Disease."

This gentleman was referred to me by Dr. Lyon, of Harlem, in January, 1890, for relief of his bow-legs. He is fifty years of age, is a carpenter by occupation. The limbs are markedly bowed, as you can see, the distance between the knees as he stands being six inches—this from skin to skin. The limbs are of equal length. Over each thigh, on the upper and outer aspect, is a mass that seems like a fibrous tumor. It is connected apparently with the tensor vaginæ femoris. These masses are symmetrical, are painless, and increase in size when the muscle is active. There is some laxity of the knee-joint; no pain on handling the limbs. He finds most ease with his legs crossed scissors fashion. His arms are strong, though he thinks they have increased in size. His elbow joints are altered in appearance. The inner condyle of each humerus is quite sharp, and unusually prominent. His head has increased in size, in that he formerly wore a 6¾ inch hat, and now wears a 7½ inch. His disease began apparently about five years ago, without apparent inflammatory signs, and unpreceded by any acute illness. He scarcely knows what sickness is.

The patient this evening complains that he has grown worse since I saw him in January. He is quite unable to get about any distance without a cane; cannot work; feels weaker generally. Certainly the deformity at the knees is much greater. He is quite sure, too, that his head has grown a little larger since my observation.

In 1876, Sir James Paget first drew attention to the disease, and since then numerous cases have been recorded. Mr. J. R. Lunn, in St. Thomas's Hospital Reports for 1883, Volume XIII., gives a full account of the case. He has reported four other cases. The symptoms described by these observers are pains of a rheumatic character in the affected limbs, loss of height in male patients, increased size of the head, rendering their hats too small. Sir James Paget described it as a chronic ostitis. Mr. Lunn's conclusions, however, are that we have: 1. A constitutional disease producing atrophy and absorption of a large part of the osseous system. 2. Consequent weakening of the bones, so that they yield when exposed to strains. 3. Compensatory strengthening of the growth of what may be looked upon as a variety of callus. 4. The occasional formation of definite tumors. 5. Fatal cachexia. Specimens in a fatal case have been shown to Dr. Sharky by Mr. Lunn, and the report is as follows: "The most striking points in sections of the occipital bone are: 1. The irregularity in the anatomical structure of the bone. 2. Absorption or rarefying ostitis appears to be the predominant process, producing very large and very irregular Haversian canals, which produce Howship's lacunæ, as well as much larger indentations in their walls; they are lined by a thin layer of tissue which stains with logwood, as is usually the case in rarefying ostitis. 3. The bone corpuscles are distributed with great irregularity, presenting, for the most part, no arrangement in parallel lines. 4. The bone lacunæ are mostly small, shrunken, and supplied with few processes. 5. There is but little appearance of the natural lamellar arrangement in the walls of the Haversian canals, and where lamellæ are seen they are ill-defined, and many having different directions meet together in the walls of one Haversian canal. 6. There is also clear evidence of a formative ostitis, seen in the reduction of some Haversian canals to the smallest calibre, and in some parts the parallel lamellæ of new bone which have produced this change can be clearly made out. 7. Besides the lines in the walls of the Haversian canals, which are due to their lamellar arrangement, there are others quite irregular in appearance, and consisting of series of curves which cross each other, or else follow more or less the direction of the lamellæ. The nature of these lines is not evident. The portion of the tumor from the ileum which was given me to examine, presented the microscopical characters of cartilage throughout. Nowhere was any sarcomatous tissue seen."

At the Toronto Medical Society, April 30, 1885, Dr. McPhedran presented a case of a female, sixty-three years of age, English, with good family history. She had been ailing since she was forty-five. Six years prior to the date of presentation of the case, she had a severe illness in which the right side was paralyzed. Within a few months she began to complain of pains in the right leg, and soon noticed that it was larger and beginning to bend. The curving has greatly increased. Shortly after this the right side became the seat of irregular pains; it began to "fall in." Three years ago the right hip began to pain her, and the thigh to bend. For the last three or four years she had found walking troublesome, the difficulty gradually increasing. The right tibia was considerably enlarged and markedly curved. The left leg was equally affected in the deformity. The ribs on the right side are considerably contracted.

At the Clinical Society (London), March 13, 1885, Mr. A. Q. Silcock presented specimens from a case occurring in a woman aged eighty two. The femora were curved

slightly and slightly thickened, and the tibia had an antero-posterior curve. The right tibia was specially thickened, and on section it was seen that the medulla was encroached upon. At the summit of the curve the compact bone had become more porous, but no new growth could be discovered. The periosteum of the thickened bone was not obviously affected. On raising the scalp the sutures were found to be obliterated, and the surface of the bone was smooth. The right parietal and frontal eminences were much exaggerated. The bones were greatly thickened. The thickness of the frontal bones was one inch and a quarter, of the squamous portion of the temporal bone one-third of an inch on the right and one-quarter of an inch on the left, of the occipital one-half an inch. The superciliary ridges were greatly exaggerated. The distinction between external and internal tables and diploë were almost obliterated except in one area; the bone was hard and compact, the dura mater was unduly adherent, and the inner surface of the cranium was rough; the bones entering into the base were not affected, but the roof of the orbit was thickened. The spine was doubly curved and twisted, but this curvature appeared to have occurred in early life, as section of the spine showed no recent changes. The viscera were all healthy. The brain weighed forty ounces, and was apparently quite normal. At this meeting Mr. Stephen Paget showed specimens from two of the cases described by Sir James Paget. Dr. Goodhart showed specimens from a woman at this same meeting.

The literature of our own country contains very little on this subject, so far as I can learn, and hence the value of the present case. The question of treatment came up for my decision, and it occurred to me that an osteotomy could be done to advantage. The patient, however, did not assent to this treatment.

Dr. Andrew H. Smith referred to a case, and inquired of Dr. Gibney whether it was not of the same nature as his second case. The patient was a woman, aged about fifty, who, while exerting the least amount of force in pulling to a stage door on Fifth Avenue, sustained a fracture of the right radius. Dr. Smith found that the bone had previously been enlarged and curved. The radius of the other arm was also enlarged and curved in its lower half. Both tibiæ were enlarged and curved, one very markedly. All these changes had taken place within three years. Replying to an interrogatory by Dr. Gibney, he said the patient had not suffered pains in the bones.

He inquired of Dr. Gibney whether if in his (Dr. Gibney's) case section were made to overcome the bow-leg, he would expect ready union?

Dr. Gibney replied that he knew of no reason why the changes which had taken place in the bone should interfere with union if they were operated upon. Being also asked what was the nature of the pathological process, he said it was a subacute ostitis, and that the deformity was due, not to predominance of the soft over the osseous substances in the bone, but to laxity of the ligaments. The bones did not seem to him to be bent.

A Case of Acromegaly.—Dr. C. L. Dana said he would like to have Dr. Gibney's opinion as to the relation between the disease in the case which he had last presented and that of acromegaly, of which he had a case under observation. In this disease there is an extraordinary hypertrophy of the bones of the extremities.

Ostitis Deformans in a Horse.—Dr. E. L. Partridge said Dr. Liautard once showed him a horse which he and his colleagues regarded as an unusual case. It was somewhat similar to that of the man presented by Dr. Gibney, for there was symmetrical increase in the size of the bones. The condition was spoken of by the veterinarians as big head. The animal retained his appetite, and seemed comfortable, but as the years passed the bones became very large, and caused the movements to become clumsy. The jaw especially was very large in this case.

Perforating Ulcer of the Duodenum.—Dr. George L. Peabody presented a case as follows:

The patient whose stomach and duodenum I show you this evening was admitted into one of my wards in Bellevue Hospital in November, 1889. He was an Irishman of good muscular development, thirty-eight years of age, unmarried, and a carpenter by occupation. He admitted that he drank in moderation.

Previously to this fatal illness he had always been well and strong; he had never had a severe illness of any kind, and, specifically, gave no history at all pointing toward a gastric or duodenal ulcer.

Six days before he entered the hospital he had been exposed to a heavy rain, and had got very wet. Following this prolonged exposure, and while still very wet, he worked for some hours in an open hallway, in a strong and cold current of air. During this exposure he perspired very freely in consequence of his hard muscular work. About eleven o'clock his work was finished, and he went home to bed. A chill soon followed, which was severe, but, as he thought, was not attended by fever. It was, however, soon followed by diarrhœa, which was severe at first, and continued with varying severity up to the time of his admission to the hospital. About forty-eight hours after the diarrhœa commenced he began to be nauseated, and soon to vomit. This vomiting continued, with irregular remissions, up to the time of his admission. During the continuance of the vomiting he coughed a good deal. With this cough there developed a well-marked pain, which he located at the level of the ensiform cartilage, and which he said extended thence laterally in both directions entirely across the front of the body.

Upon admission to the hospital he complained of this pain, which was moderately severe and accompanied by some tenderness on pressure in the same regions. He also complained of the cough, and he vomited a little at this time. After his admission he vomited only twice. He was very hungry, and begged to be allowed a more liberal diet than the milk to which I caused him to be restricted. The vomited matter was of dark brown, granular, watery material, of very offensive odor, and not very abundant. It ceased in response to ordinary treatment; and on neither occasion did it contain blood. His appearance at the time of his admission somewhat suggested the presence of peritonitis. His eyes were sunken, there was great facial emaciation, and a rather hard and moderately rapid pulse. His temperature, however, was not high (99.6° F.), and the pain and tenderness were not severe, and he was very hungry, as I have said.

Besides the ordinary anti-emetic treatment that seemed indicated, I ordered him only milk diet and cold applications to the region of the epigastrium. A few hours later he had several diarrhœal movements. These were dark in color and very watery, but they contained no blood. This symptom ceased without treatment during the night. The next day he expressed himself as feeling much better. He wanted to be allowed to get up and to eat solid food. He was, of course, kept in bed, and given only milk as food, in spite of his wishes. The pain and tenderness were still present, but not very severe; and the cough, vomiting, and diarrhœa had all subsided. After the cessation of these latter symptoms he had slept fairly well. He seemed refreshed and to need no additional treatment. He still had the facies of grave intra-peritoneal lesion, but he gave no other indication at this time of the nature of his malady beyond this, and the pain and tenderness.

During the second night after he came under observation he again had a sharp attack of diarrhœa, which ceased before morning under the use of an ordinary astringent mixture containing a small quantity of opium. On the following day his facial expression again impressed me as it had at first, and he still had some pain and tenderness, but neither nausea, nor vomiting, nor diarrhœa. His hunger was unabated. Up to this time his temperature had kept in the neighborhood of 100° F., but on this day—the third of his hospital stay—it rose to 103° in the

evening. His urine contained a small quantity of albumin, but was normal in other respects.

Suddenly, in the evening, he had several profuse, watery movements, and complained of intense and unendurable pain in the epigastrium and both hypochondriac regions. Morphine was given subcutaneously without controlling the pain. He passed rapidly into a condition of collapse, had a very feeble pulse, a cold surface, covered with profuse perspiration, and died at 9.15 P.M.

At the autopsy I found a large quantity of liquid intestinal contents in the upper part of the peritoneal cavity, with intense congestion of the peritoneum in the same situation. The stomach was moderately dilated, and its mucous membrane generally thickened, presenting, as is still well seen, the *état mamelonné* of the French pathologists.

In the posterior surface of the duodenum, three-quarters of an inch below the pyloric ring, was this circular ulcer, whose edges are smooth and whose diameter is rather more than half an inch. It had destroyed all the coats of the duodenum.

In view of the rarity of this lesion and the obscurity of its symptoms, it seemed to me that the case was worth recording in the proceedings of the Society.

Duodenal Ulcers Following Burns.—Dr. George F. Shrady said there were cases on record in the New York Hospital of duodenal ulcers following burns. He had seen one there when house surgeon.

Dr. Peabody remarked that it was true, duodenal ulcers did sometimes result from burns, but why the embolus should lodge in the duodenum seemed a mystery.

Dr. Polk inquired of Dr. Peabody what was the explanation of the ulcer in this case.

Dr. Peabody replied that he had no explanation to offer, yet he supposed its origin was similar to that of so-called peptic ulcers in the stomach. Unlike ulcer of the stomach, ulcer of the duodenum was said to be more common in men than in women. He had no explanation to offer for the cessation of the circulation of the blood at the seat of the ulcer in this case.

The Question of Operation.—Dr. W. T. Bull inquired whether there was anything in the course of the history which would suggest the propriety of abdominal section.

Dr. Peabody replied that the question of opening the abdomen was pretty thoroughly discussed, but there were no symptoms of peritonitis except in the facial expression, and no signs of perforation until an hour or two before death.

The President remarked that a number of cases had been reported with a similar history to that of Dr. Peabody's; cases in which the first evidence of trouble had either been intestinal hemorrhage so profuse as to cause death, or else perforation and fatal peritonitis. He believed that in the majority of cases of duodenal ulcers the diagnosis had not been made until after death. It was a curious fact, to which Dr. Peabody had already referred, that a very large percentage of the recorded cases had occurred in males, while gastric ulcer was markedly more frequent in females. In sixty-four cases of duodenal ulcer recorded by Krauss, ninety-six and two-thirds per cent. of the whole number had been males. The only case which he had himself seen confirmed by autopsy, was in a male; the ulcer was very large, and was situated one-half in the duodenum and the other half in the stomach. He had at present two other cases under observation, in which he believed duodenal ulcer existed, but the diagnosis remained to be confirmed. Bucquoy had published a series of cases, and given several differential points in the diagnosis. One was pain and distress in the right hypochondriac region, developing two or three hours after ingestion of food, gastric digestion often being performed without apparent disturbance. A second was a sudden and recurring intestinal hemorrhage in an apparently healthy person. An article had been published two or three years ago by Dr. William Johnston, of Washington, in which a very striking case of duodenal ulcer was described, in which these diagnostic points were prominent. In a recent paper Dr. Osler had expressed doubts of dependence being placed upon these differential points. With regard to the genesis of duodenal ulcer, its usual situation above the bile papilla pointed to a similar origin with gastric ulcer. Physiologically considered, this part of the duodenum might be regarded as a part of the stomach.

(To be continued.)

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 6 to April 12, 1890.

Taylor, Arthur W., Captain and Assistant Surgeon. By direction of the Secretary of War, leave of absence granted for six months, on surgeon's certificate of disability, with permission to leave the Division of the Pacific. Par. 10, S. O. 78, A. G. O., Washington, D. C., April 3, 1890.

O'Reilly, Robert M., Major and Surgeon. By direction of the Secretary of War, the leave of absence granted him in S. O. 24, October 16, 1889, amended by S. O. 252, October 29, 1889, both from this office, is extended one month. Par. 30, S. O. 81, A. G. O., April 7, 1890.

Wood, Marshall W., Captain and Assistant Surgeon. By direction of the Secretary of War, relieved from duty at Fort Randall, S. Dak., and to report in person to the commanding officer, Fort Meade, S. Dak., for duty at that post, reporting by letter to the commanding general, Department of Dakota. Par. 24, S. O. 82, Headquarters of the Army, A. G. O., Washington, D. C., April 8, 1890.

Jarvis, Nathan S., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted him in S. O. 34, March 20, 1890, Department of the Missouri, is extended fifteen days. Par. 22, S. O. 81, Headquarters of the Army. A. G. O., April 7, 1890.

Lauderdale, John V., Major and Surgeon. By direction of the Secretary of War, transferred from Fort Davis, Tex., to Fort Ontario, N. Y. Par. 2, S. O. 83, A. G. O., Washington, D. C., April 9, 1890.

Skinner, John O., Captain and Assistant Surgeon. By direction of the Secretary of War, transferred from Fort Ontario, N. Y., to Fort Davis, Tex. Par. 2, S. O. 83, A. G. O., Washington, D. C., April 9, 1890.

Perley, H. O., Captain and Assistant Surgeon. By direction of the Secretary of War, transferred from Fort Wayne, Mich., to Fort Mason, Cal. Par. 2, S. O. 83, A. G. O., Washington, D. C., April 9, 1890.

Burton, H. G., Captain and Assistant Surgeon. By direction of the Secretary of War, transferred from David's Island, N. Y., to Vancouver Barracks, Washington, D. C. Par. 2, S. O. 83, A. G. O., Washington, D. C., April 9, 1890.

Hopkins, William E., Captain and Assistant Surgeon. By direction of the Secretary of War, transferred from Fort Mason, Cal., to Fort Columbus, New York Harbor. Par. 2, S. O. 83, A. G. O., Washington, D. C., April 9. 1890.

Stephenson, William, Captain and Assistant Surgeon. By direction of the Secretary of War, transferred from Fort Verde, Ariz. Terr., to David's Island, N. Y. Par. 2, S. O. 83, A. G. O., Washington, D. C., April 9, 1890.

Willcox, Charles. First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, transferred from Fort Columbus, New York Harbor, to Fort Bowie, Ariz. Terr. Par. 2, S. O. 83, A. G. O., Washington, D. C., April 9, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending April 12, 1890.

WHITE, S. S., Assistant Surgeon. Detached from the Minnesota and to wait orders.

HARRIS, H. N. T., Assistant Surgeon. Ordered to the Minnesota.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 12, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	9	5
Scarlet fever	85	7
Cerebro-spinal meningitis	7	5
Measles	273	14
Diphtheria	94	29
Small-pox	0	0
Varicella	6	0
Cholera	0	0

Caffeine has hitherto been believed to be a substitute for food, but, according to Professor Germain Sée, it furnishes only the primary tonic stimulation. A paper, recently read before the Academy of Medicine by Professor Sée, on the subject, winds up with the following conclusions: 1. Caffeine, in small and repeated doses (sixty centigrammes) per day, and which may be prescribed with advantage to soldiers on march, facilitates muscular work, in augmenting the activity not directly of the muscle itself, but of the motor nervous system, as much cerebral as medullary. The consequence of this double action is to diminish the sensation of effort and fatigue which constitutes a nervous phenomenon. 2. Caffeine prevents dyspnœa and palpitations following effort. 3. A man who gives himself up to prolonged violent exercise acquires the qualities of training. 4. In producing this excitation of the cerebro-spinal motor system, on which depends the augmentation of muscular tonicity, caffeine augments the waste of the carbon of the organism and particularly of the muscles, but it does not restrain the waste of the nitrogenous substances; it is, therefore, not in reality a means of retarding the wear and tear of the tissues (moyen d'épargne). 5. Caffeine, therefore, has not the property of replacing aliments; it only replaces the general tonic excitation which is produced by the ingestion of aliments. Thus it may be seen that the so-called "médicaments d'épargne," which were once so much vaunted, are daily losing credit. The legendary coca of Peru is also losing the beneficent properties attributed to it.

Death of Trélat.—One of the most distinguished members of the Faculty of Medicine of Paris, Dr. Ulysse Trélat, died on Friday last, the 28th inst., from the effects of pulmonary congestion, with which he was attacked about a week previously. He was sixty-two years of age. He was the second son of Ulysse Trélat, the celebrated alienist, and Minister of Public Works in 1848. He took his degree in 1854, then became agrégé in 1857, on which occasion he wrote his thesis on necrosis produced by phosphorus. In 1860 he was attached to the Central Bureau of Hospitals, then successively to the Maternity, the Hôpital Saint Antoine, to the Pitié, and finally to the Charity Hospital in 1872, to which he remained attached to the day of his death. He was appointed Professor of Clinical Surgery in the same year, elected Member of the Academy of Medicine in January, 1874, of which he eventually became President. He was also Commander of the Legion of Honor. His funeral, which took place in the Madeleine Church on Monday morning, was very largely attended. Military honors were rendered, the Faculty of Medicine and the Academy were officially represented by professors in their official robes. The other learned societies to which the deceased belonged were also represented. His interment took place in the Cemetery of Montmartre, when several orations were pronounced over his grave. The deceased having been President of the Academy of Medicine, the meeting of Tuesday last was suspended as a mark of respect to his memory.

Deaths from Chloroform.—Owing to an accident which lately took place at a hospital, in a patient while under the influence of chloroform during an operation, the director of the Assistance Publique has caused a report to be made of the surgical operations that have been performed in the Paris hospitals during the last ten years, and the conditions in which they were performed. It results from this work that the accidents due to the employment of chloroform have been in the proportion of 1 in 1,236, those due to ether have been only 1 in 12,581 cases.

An Album for Pasteur.—The Semaine Médicale reports that a committee, composed of British and American notabilities, has been formed to offer an album to M. Pasteur. The first page of this album bears, in French, under the signature of the Princess of Wales, the following inscription: "To the Great Monsieur Pasteur, the Benefactor of the human race."

Hypertrophy of Tonsils.—In order to determine the relations of hypertrophy of the tonsils in childhood to the general physical development of the children concerned, Dr. Upsenski examined the pupils of two military schools, between the ages of ten and fourteen, finding among them fifty-two cases in which hypertrophy existed. Of these, twenty were deficient as to height, weight, and circumference of the chest for their respective ages. A few were myopic; thirty-seven lacked acuteness of hearing; most of them were anæmic, with weak and hoarse voice. Breathing through the nose was difficult, and in most of the cases obstructed. With the tonsillar hypertrophy there was also granular or atrophic pharyngitis in almost every case, and in many there was swelling of the glands of the cervical and submaxillary region. In twelve cases the uvula was deviated to the right, in eight to the left; but this had no bearing on the hearing in these cases. In eighteen of the cases the father was dead, in seven the mother, the cause of death in most cases being some form of chest disease. The conclusion which was drawn from the study of these cases was, that between tonsillar hypertrophy and physical and psychical development there exist relations which rest for the most part, if not exclusively, upon inheritance.—*The Boston Medical and Surgical Journal.*

Diabetic Coma and its Treatment.—Stadelmann, as the results of clinical and experimental observation on this subject, comes to the following conclusions: 1. Diabetic coma—apart from accidental coma due to other causes—occurs only in the case of diabetic patients whose urine contains oxybutyric acid. 2. Almost equivalent in value with the recognition of oxybutyric acid is the determination of the amount of ammonia in the urine; while it is also far easier of performance. 3. Diabetic patients with an excretion of ammonia of more than 1.1 gramme per day, are in danger of becoming severe cases of the disease. 4 Patients excreting two, four, six, and more grammes of ammonia daily, need constant watching by the physician, and are in constant danger of passing into diabetic coma. 5. If the determination of the presence of oxybutyric acid, or the estimation of the amount of ammonia, cannot be carried out, at least the chloride of iron test should be made. If this gives a positive reaction, oxybutyric acid is present in the urine, and the cases answer to the statements made in the 3d and 4th conclusions. The converse of this is, however, not always true, for there are cases of diabetes with oxybutyric

acid in the urine, and even suffering from diabetic coma, whose urine does not give the chloride of iron reaction. 6. These severe cases in which there is an increase of the secretion of ammonia, or the presence of oxybutyric acid with the chloride of iron reaction in the urine, are only with the greatest caution, and with the simultaneous exhibition of alkalies, to be put upon a strict meat diet. 7. If there is fear of the development of diabetic coma, the patients should be put upon full doses of the alkalies, though, of course, with strict oversight and with proper interruptions in the treatment. 8. If coma has already developed, large intra-venous injections of a solution of the carbonate of sodium and the chloride of sodium should be given as quickly as possible; the patient being carefully watched meanwhile. The injections should be stopped if threatening symptoms appear, such as irregularity or marked retardation of the pulse, convulsions, or temporary cessation of respiration. After a time they should be recommenced, and the process continued until the urine becomes alkaline. 9. Subcutaneous injections of carbonate of sodium are not to be commended, on account of the pain and deep-seated inflammation they produce.—*The American Journal of the Medical Sciences*, March, 1890.

To Remove Superfluous Hair. — According to the *British and Colonial Druggist*, a good depilatory is made by mixing together in fine powder, 50 parts of barium sulphydrate, 25 parts of starch, 25 parts of oxide of zinc, and making into a paste with sufficient water. This is spread on the surface which is to be freed from hair, about an eighth of an inch thick, and allowed to dry. When this is effected (it generally takes about ten minutes) the mass is removed, leaving a perfectly hairless surface. Irritation does not occur, but the mixture should not be applied to the same place on two consecutive days.—*London Medical Recorder*.

National Legislation for the Prevention of the Spread of Contagious Diseases.—Congress has enacted the following law: An act to prevent the introduction of contagious diseases from one State to another, and for the punishment of certain offences. *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That whenever it shall be made to appear to the satisfaction of the President that cholera, yellow fever, small-pox, or plague exists in any State or Territory, or in the District of Columbia, and that there is danger of the spread of such disease into other States, Territories, or the District of Columbia, he is hereby authorized to cause the Secretary of the Treasury to promulgate such rules and regulations as in his judgment may be necessary to prevent the spread of such disease from one State or Territory into another, or from any State or Territory into the District of Columbia, or from the District of Columbia into any State or Territory, and to employ such inspectors and other persons as may be necessary to execute such regulations to prevent the spread of such disease. The said rules and regulations shall be prepared by the Supervising Surgeon-General of the Marine Hospital Service, under the direction of the Secretary of the Treasury. And any person who shall wilfully violate any rule or regulation so made and promulgated shall be deemed guilty of a misdemeanor, and upon conviction shall be punished by a fine of not more than five hundred dollars, or imprisonment for not more than two years, or both, in the discretion of the court.

Sec. 2. That any officer, or person acting as an officer, or agent of the United States at any quarantine station, or other person employed to aid in preventing the spread of such disease, who shall wilfully violate any of the quarantine laws of the United States, or any of the rules and regulations made and promulgated by the Secretary of the Treasury as provided for in Sec. 1 of this act, or any lawful order of his superior officer or officers, shall be deemed guilty of a misdemeanor, and upon conviction shall be punished by a fine of not more than three hundred dollars, or imprisonment for not more than one year, or both, in the discretion of the court.

Sec. 3. That when any common carrier or officer, agent, or employee of any common carrier shall wilfully violate any of the quarantine laws of the United States, or the rules and regulations made and promulgated as provided for in Sec. 1 of this act, such common carrier, officer, agent, or employee shall be deemed guilty of a misdemeanor, and shall, on conviction, be punished by a fine of not more than five hundred dollars, or imprisonment for not more than two years, or both, in the discretion of the court.

The bill was signed by the President, March 28th.

An Extraordinary and Tragical Case.—The following extraordinary and tragical case has recently been reported in the *Northwestern Medical Journal*. It shows how much it is necessary that physicians should be intelligent and well-trained men; and it is a most convincing argument that the State needs to guard itself against poor doctors as it would against a pestilence: A physician of forty years' practice attended a healthy young woman in her second confinement. After a comparatively easy labor she was delivered of a well-formed female child. In half an hour, as the placenta did not come away, the doctor proceeded to remove it. Gentle manipulation proving not sufficient he made use of such efforts that chloroform was necessary to deaden her extreme pain. Notwithstanding the fact that the patient suffered horribly, and was growing progressingly and alarmingly weaker, this man, for two hours, employed ever-increasing exertions to detach what he said was an adherent placenta. Finally he was prevailed on to send for assistance. The consulting physician made an examination, exclaimed "inversion," and after a hasty conversation between the two, the consultant asked for a knife to cut something off. What he removed he instantly made away with, and the patient a few minutes afterward died. Suspicions were aroused, however, and an investigation revealed the fact that the attending physician had actually enucleated with his hand the uterus, mistaking it for the placenta! The consultant, upon making his examination felt coils of intestine, and recognizing at once the awful condition of affairs, cut off the womb and took it away, hoping by this course to shield his friend.

Duration of Life in Norway.—According to a recent work on longevity, published in Norway, the average duration of life in that country is 48.33 years for men, and 51.3 for women.

Society of the Alumni of Charity Hospital.—At the meeting held April 8th, Dr. C. W. Stimson read a paper on the "Phonograph as an Acoumeter." The practicability of using the instrument was discussed by Drs. Noyes, Webster, Moore, Andrews, Mittendorf, Peck, and others. Dr. Webster thought there must be some bone conduction from insertion of the tubes into the auditory canal. This would of course be the source of a certain amount of error. Drs. Andrews and Peck urged the necessity of using the human voice as part of an acoumetric test. The system of graded bell sounds as introduced by Dr. Stimson was undoubtedly of value, but it is the human voice which deaf people want to hear. Dr. Rupp demonstrated a case of chronic œdema of the larynx.

Tenth International Medical Congress.—In a letter dated Berlin, Karlstrasse, 19, March 22d, Dr. Lassar, the Secretary-General of the Tenth International Congress, directs me to inform the Medical Profession of America, that a programme of the Congress and other communications will be distributed two months before the meeting among those who will have registered previously and received their tickets of membership. The latter can be obtained by sending application and five dollars to Dr. Bartels, Leipzigerstrasse, 75, Berlin, S. W. By so doing the members will save much crowding and time during the first days of the Congress.

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Original Articles.

THE FALLACY OF THE SO-CALLED HOT-AIR TREATMENT OF PHTHISIS.[1]

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Among the many systems of treatment for pulmonary tuberculosis none have excited more wide spread interest than the so-called antiseptic methods, which are the immediate outgrowth of the discovery of the tubercle bacillus by Koch. One of these methods originated in Germany, about four years ago, and is employed to a considerable extent to-day in this country. It is based upon the fact that heat of a degree slightly above the body temperature destroys, or renders innocuous, the tubercle bacilli, so that if the germs can only be heated sufficiently *in situ* by the inhalation of super-heated air, they will cease their mischief. To accomplish this result several kinds of heaters have been devised. Krull, in Güstrow, De Renzi, in Naples, Weigert, in Berlin, Halter, in Halle, and Sears and Richardson, in Boston, have all invented new apparatus for hot-air inhalation.

This new treatment has been employed in a large number of cases of tuberculosis. Dr. Bowie, of London, reported last year, in *The Lancet*, that he had prescribed inhalations of air with the Weigert apparatus at 120° to 140° F. (48.8° to 60° C.), for a phthisical patient, with the effect of increasing the cough and expectoration for the first four weeks, although the general condition as to appetite, sleep, etc., improved, and the bacilli diminished. No medicine was given. Bowie omits the mention of the character of the diet or hygienic surroundings, and does not fully describe changes in the physical signs. He says that he has advised this treatment in several other cases, and has seen improvement in each.

Schmid recently reports several incipient cases of phthisis treated by Weigert's apparatus, in which the sputa lessened, and appetite and body weight increased.

Trudeau tried the Weigert method faithfully with four patients, who were under daily treatment by two sittings of two hours each, for periods varying from one to four months. He used air at 392° F. (200° C.) in the apparatus. Two patients became discouraged and gave up the treatment. Another, during a four months' course, seemed to have less dyspnœa and perspiration, fewer râles, with more nearly normal respiratory rhythm, and slight gain in weight. During the progress of these cases the sputum of the patients was injected into rabbits at regular intervals of five weeks, and its virulence as affecting these animals underwent no diminution whatever. In addition, cultures of the bacilli were made, and Trudeau arrived at the following conclusions: "1. The therapeutic value of hot-air inhalations in phthisis is doubtful. 2. The evidence obtained by the bacteriological study of the cases presented does not confirm the assumption that inhalations of heated air can either prevent the growth of the tubercle bacilli in the lungs of living individuals, or diminish the virulence of this microbe when it has gained access to them."

Louis Weigert reports, in the Medical Record, five cases treated by hot-air inhalations quickly raised to 320° F. (160° C.). These five patients were under treatment from one to six hours daily, for periods varying from one to five months, and they exhibited a certain amount of improvement in both physical signs and general symptoms.

The Weigert apparatus was exhibited by Dr. A. L. Stern before the Section in the Practice of Medicine of the New York Academy of Medicine, on February 19, 1889. This apparatus consisted of a double copper cylinder with a connecting tube, mouth-piece, and valves. The air within the cylinder is heated by a Bunsen burner or lamp to 482° F. (250° C.), though Weigert himself admits that the temperature when the air reaches the mouth-piece is "actually only about 320° F. (160° C.)." Dr. A. Jacobi, having had practical experience with this apparatus, at a subsequent meeting of the Academy, declared it to be very clumsy. It undoubtedly was both cumbersome and expensive.

A few days ago a cheap pamphlet was thrust beneath my door, entitled "Proofs that Consumption Can be Cured," and which advertises, with various eulogistic letters and newspaper notices, the merits of a cheaper and improved form of "Perfection Hot-air Machine," patented and for sale by the "Dr. Louis Weigert Co.," which is recommended for "consumption, asthma, chronic bronchitis," and a host of nasal and laryngeal affections!

Dr. Stern claimed for the hot-air treatment of phthisis that "complete cures" result, with "total cessation of cough" and expectoration, with disappearance of fever and night-sweats. He said, also, that after four months of treatment, the bacilli totally disappear. He also stated that, in Vienna, one hundred and fifty cases of phthisis had been treated by the new method, fifty of which had been reported.

In commenting upon the claims of Weigert and Stern, *The Journal of the American Medical Association* says that "all this reads like a fairy-tale," and continues, "there is but little doubt that this method of treating phthisis will be extensively tried."

Dr. A. Jacobi, at a meeting of the New York Academy of Medicine held on June 20, 1889, reported that he had been induced to give the Weigert apparatus fair trial at Bellevue Hospital, with the result of temporary improvement in the cases treated; but he was convinced that this improvement was due to rest and better air than the patients had had at home, rather than to any influence of the hot air. He expressed the opinion that little, if any, of the heated air ever reached the alveoli, and said that in the Weigert apparatus used the air fell from 300° F. (148° C.), in the cylinder, to nearly the temperature of the body by the time it reached the mouth. Two of his patients had severe cough and vomiting as a direct result of the inhalations.

Dr. E. L. Shurley, of Detroit, at a meeting of the American Medical Association, June 27, 1889, reported the use of the Weigert apparatus in twenty cases of phthisis. He considered only eight of these as having had a fair trial. Of these eight only two showed any kind of improvement, and the remaining six had to stop the treatment within one or two weeks, on account of sore mouths, dyspnœa, pains in the chest, nausea, or similar reasons.

Sears applied the hot-air treatment to four cases of phthisis. He employed an apparatus devised by G. L. Kingsley, of the Harvard Medical School, which must have been more efficient than others, judging from the results; for one patient became salivated, and the mouth grew so sore as to require intermission of the treatment. In an-

[1] Read before the New York Academy of Medicine, April 3, 1890.

other patient constant cough was excited. The third patient grew much worse, and died from hemorrhage several days after cessation of the treatment; and the second and fourth cases both had hæmoptysis for the first time in their history.

Professor Dr. Kohlschütter reported to a medical society in Halle-on-Saale the successful use of hot-air inhalations in several cases of pulmonary tuberculosis, and he spoke with much enthusiasm of the new treatment, claiming that by it a few more bacilli are destroyed each day, while the symptoms of cough, expectoration, etc., diminish.

The alteration in symptoms reported by those who have used the hot-air treatment, is no argument in its favor. None of these changes have been of a decided type, and everyone accustomed to deal with cases of tuberculosis in its various stages is familiar with the frequent slight changes in the cough, or sputum, or appetite, or body weight that naturally occur in the course of three or four months of the disease, and which are readily explained by variations in diet, hygiene, environment, etc. How often the faith that many such patients repose in any new treatment works a temporary improvement in their condition! The improvement was never very decided, in the best authenticated cases, and in many instances the patients were simultaneously taking creasote and other remedies. Moreover, the lung gymnastics, necessitated by deep inhalation, may, in certain cases, have been of benefit by expanding the lungs more fully, thus increasing tissue-change in various ways quite independently of any additional heat. The only observers (Sears and Trudeau) who have made a really thorough report of the relative number of bacilli present while the patients were under treatment, agree in failing to find any material diminution. The mouth would doubtless become much drier and more burned than it does, were it not for the fact that the salivary glands are stimulated to increased secretion by the irritation of the warm tube in the mouth.

The observers above cited all seem to have omitted to perform any simple experiments to determine whether the heated air really conveys its heat to the lungs or not, but contented themselves with speculation.

Dr. Sears says that, in other words, "a hot poultice has been applied to the lungs, and an active hyperæmia induced," and he alludes to the danger of the rarefied hot air favoring hemorrhage from vessels weakened by ulceration or aneurismal dilatation, while the patient himself is exposed to ordinary atmospheric pressure.

Halter, who first suggested the use of hot air inhalation for baking bacilli, has calculated that air heated to 122° F. (50° C.) is so rarefied and expanded as to equal in density air inhaled at an elevation of 1,350 metres, and air at 392° F. (200° C.) equals in density air at a height of 4,880 metres. Yet he disadvises forced inspiration of the hot air! In reviewing these statements, Lazarus very justly inquires how a patient is to draw such rarefied air into the lungs against the ordinary external atmospheric pressure, unless by extraordinary respiratory effort?

While the body remains under normal atmospheric pressure it is a physical impossibility to fill the lungs completely with rarefied air (*i.e.*, superheated air), or even to exert a negative pressure sufficient to forcibly rupture either normal or weakened vessels. A very simple calculation of the superficial area of the chest, multiplied by the normal atmospheric pressure bearing constantly upon that surface, shows the impossibility of exerting sufficient force by the chest-wall to sustain the external air, were the lungs filled with air sufficiently rarefied to rupture blood-vessels. The air would be condensed within the lungs to the normal pressure. Let anyone convince himself of this by closing the mouth and nostrils, and then trying to expand the air in the lungs by attempting to expand the chest.

Weigert and Kohlschütter not only claim that the hot air penetrates to the deepest alveoli, carrying great heat with it, but that the exhaled air has a temperature ranging as high as 140° F. (60° C.), and that this hot air destroys the bacilli in some instances, and lessens their virulence in others.

Krull claims that heated air acts like a cataplasm, dilates the lung capillaries, increases the rate of the circulation, promotes tissue metamorphosis, diminishes local symptoms, and increases strength. This claim is the more remarkable since he employs air heated but little above the body temperature. Krull also refers to the danger of inducing hemorrhage by the rarefied hot air. He now claims to get complete cures by inhalation of moist air at 112° F. (44° C.) for three-fourths or one and one-half hour twice daily. He says that there is no doubt about the hot air carrying its heat to the depths of the lungs, but omits to prove the assertion.

The duration of the sittings he reduces to fifteen or twenty minutes, once a day! (He reports five more successful cases in the *Berl. klin. Woch.*, 1889, p. 892.)

Dr. Lahnsen reports a case of tuberculosis cured by Krull's apparatus, and applauds it highly.

Wilson, in a paper read before the American Climatological Association in June, 1889, referring to Weigert's method, says: "Whether or not the tissues of the human lung can preserve their integrity when exposed to air of a temperature ranging from 212° F. (100° C.) to 480° F. (249° C.), sufficiently long to destroy the tubercle bacilli imbedded in them, remains to be demonstrated."

Halter, using inhalation of air at 392° F. (200 C.) to 446° F. (230° C.), claims that the temperature of the exhaled air is raised to 110° F. (43° C.), and he refers to the immunity from pulmonary tuberculosis of men employed with lime-baking ovens, which observation has led him to patent a mask for continuous inhalation of hot air. He uses both moist and dry air, and claims decided cures of diphtheria as well as tuberculosis.

With regard to the statement about the lime-bakers, the immunity does not appear to extend to stokers, who inhale equally hot air. The very high speed recently developed by the transatlantic steamers, has been attended by considerable loss of life among the stokers. Last October one of these men came under my care in the wards of the New York Hospital, suffering from a very acute pulmonary tuberculosis, developed while he was at work in the boiler-room of one of the ocean "greyhounds," and the surgeon of the same steamer stated that in his experience such cases were becoming more and more frequent among the stokers. Of course such cases, where the entire body is enveloped in the heated atmosphere, form a very different class from those treated by hot-air inhalation while the body is in an atmosphere of ordinary temperature. I therefore merely cite the above statements to oppose the argument of Halter, derived from the lime-bakers. I have, furthermore, the authority of an experienced naval surgeon for the statement that, in his experience in the service, he has never noticed or heard that the stokers were less liable to pulmonary diseases than other men, but, on the contrary, they are more liable to such complaints, not from the fact of their working in an atmosphere of very high temperature, but because, when greatly heated, they are so careless in exposing their bodies on deck.

The claims of Weigert and Kohlschütter, that the temperature of the exhaled air rises to 140° F. (60° C.) are not valid, because if a column of hot air be drawn in at the mouth or nose in ordinary respiration, the last inch or two of the column will be the first to be exhaled with the next expiration, and having been within the buccal or nasal cavity but a very brief time, it will not be as much cooled as the advance part of the column which has been drawn deeper in over a larger surface of moist bronchial mucous membrane. This first exhaled air will therefore raise the index of the thermometer and give rise to superficial and erroneous conclusions.

The only observers who thus far have attempted to ascertain whether hot air really *does* enter the lungs without

losing its heat, before keeping their patients sucking at a hot-air tube several hours daily for months at a time, are Mosso and Rondelli, of Turin. They separated two simple air-chambers by a moist membrane, and succeeded in cooling air from 392° F. (200 C.) to 76° F. (24° C.) by evaporation in its passage through the membrane from one chamber to the other.

They next allowed a dog to inhale hot air for fifteen minutes at 320° F. (160° C.), while thermometers inserted in the trachea and bronchi, respectively, showed practically no alteration in temperature. The rectal temperature also remained normal.

They used a hygrometer, and found, after inhalation of the hot air, that the exhaled air was as completely saturated as if the temperature of the inhaled air had been 66° F. (18° C.). They also estimated that the expanded hot air brings less oxygen into the lungs in a given time, and that the volume of exhaled air during respiration of hot air was not equal to that exhaled under normal conditions, by nine or ten per cent.—a circumstance which in itself is rather to be deprecated in phthisical subjects.

The results of the experiments of Mosso and Rondelli were entirely unknown to me until my own were completed, and I was pleased to find perfect accordance in our results. In addition, I made numerous other experiments which have not been previously performed, in so far as I am aware. I was interested to undertake these experiments because I could not believe, upon theoretical grounds, in the advantages claimed for inhalations of hot and of cold air, and I desired to convince myself and others by facts derived from experiments.

The theoretical objections to the method of hot-air inhalation appear to me as follows:

I. We are not accustomed to find any important changes in body temperature or in the character of the respiration in those who work in great heat, like founders, bakers, pottery glazers, stokers, and the like, nor in those who are exposed to arctic cold.

II. The widest variation of body temperature admitted by physiologists to occur in those who exchange an arctic for a tropical climate, does not exceed 0.5° to 1° F., and even this is not constant.

III. Very hot air in contact with the mucous membrane of the nose, mouth, pharynx, and larynx, will destroy their epithelium, and produce painful swelling and congestion.

IV. If it could reach further, it would cause destruction of the ciliated epithelium of the bronchi, and the delicate cells lining the air-sacs would be destroyed and desquamated.

V. It would cause dangerous capillary congestion in the lungs.

VI. The bacilli are many of them buried in large tubercular masses. It is not probable that if hot air could enter the bronchioles or air-sacs it could reach more of the bacilli than such as were by chance contained in the sputa. (Wiegert does not claim this himself.) To reach their real foci with sufficient heat to destroy them, the hot air must warm the surrounding blood.

VII. Blood-serum albumin is coagulated at various temperatures according to the reaction of its solution, and the relative amount of salts present. It may coagulate at as low a temperature as 122° F. (50° C.) (Charles), or as high as 163° F. (73° C.). The myosin in the muscles of the trachea and bronchi passes into heat rigor (coagulates) at 131°–140° F. (55°–60° C.) (Charles). The protoplasm of the various cells and blood-corpuscles would all be hopelessly injured by the heat.

VIII. The blood itself, unless the pulmonary vessels were greatly congested and the heart action greatly enfeebled, would tend to carry off the heat of the air very rapidly. An enormous surface of blood is exposed in the lungs, which is being constantly replaced with each cardiac pulsation by fresh quantities of blood unheated by the air, and ready to absorb more heat-units before they can accumulate sufficiently to damage either bacilli or protoplasm.

IX. The natural process of vaporization of the water from the mucous surface is amply sufficient to absorb all the heat-units that can be brought to the bronchi by the superheated air.

X. Only about one-tenth of the air in the lungs is exchanged with each respiration. Suppose, for a moment, that an instantaneous mixture of the air of one inspiration with the residual air of the lungs could occur—which is impossible for several reasons—then one volume of air at, say, 200° F.—nine volumes of air at 100° F.—would reduce the temperature of the mixture to 110° F., and this air would be cooled by evaporation of water long before another inspiration of hot air could raise the temperature still more.

In the face of all these well-known considerations it is difficult to believe that anyone could for a moment expect to fill the lungs during life with air hot enough or cold enough to kill bacilli. Koch says that bacilli grow best at 99° to 101° F. (37° to 38° C.), and cease to multiply at 108° F. (42° C.). Recent researches show that to certainly kill these germs a still higher temperature appears to be necessary.

EXPERIMENTS.—My own experiments were directed to determine:

1. How far can hot and cold air, respectively, be made to convey heat or cold into the air-passages.

2. The influence of evaporation upon heat-loss.

3. The influence of conduction and radiation upon heat-loss.

4. Any changes in body temperature, either local or systemic, produced by the inhalations described.

In the following experiments a very simple apparatus was used for heating the air. It consists of an iron pipe eleven feet long, bent into a close coil three inches in diameter, beneath which are placed several powerful Bunsen burners. Air is forced through one end of the coil in a continuous current from a large treadle reservoir-bellows. In traversing the coil the air is heated to 500° F., (260° C.). From the opposite end of the coil the iron pipe is bent out straight for eight inches, and connected with an inhaler made to fit tightly over the head of the animal. The inhaler has a valve which prevents the exhaled air from entering the coil, and this air passes out through a lateral opening in the inhaler. One thermometer is placed in the inhaler close to the animal's nose, and another is placed six inches distant in the tube leading from the coil. In this way the maximum temperature of the air from the coil is recorded, as well as the temperature of the air actually inhaled at the nostrils. The principle is in every way identical with that of the apparatus employed for tubercular cases, but instead of the animal sucking the hot air through the heater for himself, it is forced through in a rapid continuous stream by a bellows. In this manner the inhaler and tubes are all kept much hotter, and the temperature at the nose is easily maintained at a continuously high rate. All the thermometers used for the apparatus or animals, were of course carefully tested and compared with each other.

The animals were anæsthetized, and thermometers were placed in the lungs or trachea, or both, through small openings which they fitted so closely as to make the holes air-tight. In answer to the possible objection that, when the pleura is opened to admit a thermometer, the lung might collapse and not admit the hot air, I refer to recent experiments upon the opened pleural cavity, made by Drs. O'Dwyer, Phelps, Northrup, and myself, published in the "Researches of the Loomis Laboratory, for 1890," which demonstrate that the lung does expand again, as soon as the opening is properly closed, in expiration. As an additional proof, in many cases I inserted a thermometer between the lobes in *each* lung, and so soon as the small openings in the pleuræ were closed, respiration went on normally, and so continued. Hence a thermometer carefully placed between two adjacent pulmonary lobes, or in the lung tissue itself, does not practically interfere in the slightest with the expansion of the lung, and the entrance of air in the normal manner.

Experiment I.—Small dog. Temperature before inhalation: Rectum, 102.5° F. (39° C.); lung, 102.5° F. Air, 120° F. (49° C.) at nose, was inhaled for five minutes. No alteration in temperature of lung or rectum.

Experiment II.—Dog. Temperature before inhalation: Rectum, 100° F. (37.7° C.); lung, 100.2° F. Hot-air inhalation was started at 150° F. (65° C.), rapidly increased to 200° F., and finally to 220° F. (105° C.). This was the temperature one inch from the nose. The temperature near the coil was 200° F. higher. Inhalation was maintained for one and a half hour. During this time the temperature in the lung fell 1.2° F., and in the rectum 2° F., while the respiration fell from 26 to 14. The animal took the chloroform very ill, and a great deal was administered, so that a slight chill ensued, with the fall of temperature observed in the lung and rectum. Clearly there was no entrance of hot air to the lung in this case. The animal was subsequently allowed up, and it appeared bright and well.

Experiment III.—Small dog. Temperature of lung before inhalation, 104° F. Inhaled air at 350° F. (177° C.) at nose for fifteen minutes, at the end of which time the temperature of the lung had risen only 1.5° F. On being allowed to get up the dog showed panting respiration, and a very red tongue with congested lips. It should be remembered that the heat of the blood which is ordinarily lost in warming the inspired air, when that air is below the blood temperature, is no longer so lost when the inspired air is very hot. This may account for the rise of a degree or two in the temperature of the blood, which is due to accumulated heat rather than to heat brought in by the air. It is estimated that 2.6 parts per 100 of the heat produced by the body is normally lost in warming the inspired air (McKendrick), chiefly in the nose and trachea.

Experiment IV.—Bitch, with thermometer placed in right lung. Before inhalation, temperature in vagina 102.2° F. (39° C.); in right lung, 103.6° F. (39.6° C.). The inhaler was worn one and a half hour, and the air was started at 180° F. (82° C.), and rapidly increased to 290° F. This was the temperature close to the nose and mouth, corresponding to the position in which the writers above quoted claim to have taken the temperature of "expired air"—except that my valve and thermometer were a little nearer the mouth. During the first hour of inhalation of air at considerably above 200° F. (93° C.), the vaginal and lung temperatures were frequently noted, and they remained absolutely unchanged from the record prior to the inhalation. Surely, if air at 200° F. (93° C.) were to raise the temperature of the lungs at all, it would do so within an hour's time. During the next half-hour, as the temperature of the inhaled air was raised to 290° F. (143° C.) at the nose, the animal became very uncomfortable and restless, and there were evident signs of local irritation from the heat, such as profuse salivation, red and swollen tongue and lips, and congested conjunctivæ. Under these conditions a rise of body temperature occurred amounting to 1.8° F. (1° C.), so that the vaginal temperature at the end of one and a half hour registered 104° F., and the lung 105.2° F. (40.5° C.). This rise of 1.8° F. or more in the body temperature often occurs when a dog is restrained in an irksome position for some time, and subjected to almost any kind of operation. I have frequently seen the temperature of animals rise 2° F. while they were struggling to resist an anæsthetic. It does not seem to me fair to refer the slight rise in the final half-hour of this experiment to any effect of the heat, other than the local discomfort and irritation produced near the inhaler.

Experiment V.—Large bitch. Thermometer in trachea close to larynx, before inhalation, 102.2° F. (39° C.); vaginal temperature, 105° F. (40.5° C.). Air six inches from nose started at 240° F. (115° C.), and rapidly heated to 440° F. (227° C.). At the nose the temperature was 200° to 315° F. (157° C.). Inhalation maintained one and a quarter hour, during which time the temperature in the trachea rose only 4° F., *i.e.*, to 106.2° F. (41.2° C.). The tracheal temperature showed interesting fluctuations of 0.4° F. between deep inspiration and expiration (measured by a thermometer without the usual detached index). Air which is cooled over 200° F. in entering the trachea, traversing a distance of only six or eight inches from the nose, is not likely to convey much heat through a greater distance beyond, into the alveoli!

Experiment VI.—Large cat. Temperature before inhalation: In lung, 100.4° F.; in rectum, 99° F. Respiration, 40. Inhalation was begun at 200° F. at cat's nose, and rapidly raised to 300° F. (149° C.) at the nose, and continued for one hour. Six inches nearer the apparatus the thermometer recorded 425° F. (218° C.). For fifteen minutes there was no rise in the temperature of the lung or rectum. The cat then began to exhibit great local irritation about the face; the eyes were suffused, the lips and tongue very red and swollen, and the respiration in half an hour became very shallow, and ran up to over 200. At the end of an hour's inhalation of hot air between 260° and 300° F. (149° C.) at the nose, the lung and rectal temperature both rose 6.8° F. The inhalation was then suspended, the cat being very feeble, and in one hour more respiration and temperature were normal and the cat walked naturally about.

Experiment VII.—Dog. Temperature before inhalation: Lung, 102.6° F.; rectum, 102.2° F. (39° C.). Inhalation started at 200° F. (93° C.) at nose, and was rapidly increased to 280° F. (138° C.) and so continued. In ten minutes there was no rise of temperature. At the end of three-quarters of an hour the lung and rectal temperatures had both slowly risen 2.4° F., and during the remaining fifteen minutes of inhalation there was no further rise. The animal exhibited great irritation about the nose and mouth.

Experiment VIII.—Large cat. Inhaled air from 250° F. to 270° F. (132° C.) at the nose (500° F. in the tube of the apparatus). Inhalation maintained for twenty minutes, during which time the temperature of the lung rose from 100° F. to 102° F., and the temperature of the rectum from 101° F. to 103° F. Respiration became panting, and very shallow and rapid, finally reaching 250 per minute. The tongue and lips became intensely red and swollen; there were salivation and thirst, with every indication of great discomfort about the head, which was completely enclosed in the inhaler. I have frequently seen a similar rise of temperature in cats, irritated in other ways, under anæsthesia. A temperature of 270° F. (132° C.) at the mouth and nose is hot enough to irritate any animal into panting respiration, with great disturbance of the circulation and heat-regulating mechanism. The 2° F. of elevation of the lung temperature in this case is a very trifling one, were it really due to the heat of air inhaled at 270° F. (132° C.), and because a similar slight rise may be produced in other ways, merely from irritation of various kinds. I cannot believe that in this instance the heat of the air was conveyed to the alveoli direct.

Experiment IX.—Dog. Two thermometers placed in the trachea, one at the larynx, the other two inches below. These thermometers varied from 103° to 103.4° F. (39.5° C.), fluctuating 0.4° F. with each respiration before the inhalation. Hot air was then inhaled through the nose, where the temperature was 240° F. at the start, rapidly elevated to 300° F. (149° C.), with only 1.2° F. rise in the tracheal temperature. The animal then died from heart-failure under chloroform. Tracheotomy was at once performed, and the hot air tube was inserted at the first ring of the trachea. The second thermometer, two inches below, was left in the trachea. Through the tracheotomy tube artificial respiration at 300° F. (149° C.) was maintained for ten minutes. The chest was opened, a small hole was cut in the lung, and a long-stem thermometer was placed directly in the lung substance. The chest was closed, and the thermometer index was read from the outside. During the ten minutes of forced

respiration the temperature of the lung rose from 103.2° F. to 106° F. (41° C.), less than 3° F.! The lungs were then excised, with the thermometers and tracheotomy tube *in situ*, and artificial respiration was continued outside of the body for twenty minutes more. The temperature of the air on entering the trachea was between 320° F. and 355° F. (180° C.). The tracheal temperature two inches below could not be made to rise above 140° F. (60° C.), and the temperature of the lung tissue gradually fell to 103° F.

These experiments show: I. That when air at a temperature of 300° F. + is forcibly driven into the lungs of a recently killed dog, the moisture of the lungs, notwithstanding the stoppage of the normal circulation, is still sufficient to cool the inhaled air to nearly the temperature of the body. II. The cooled air of exhalation prevents the temperature in the trachea from rising above 140° F., although the hot air of inhalation exceeds 300° F. During a part of the experiment, I endeavored to fill the lungs much more rapidly and fully than in normal breathing; but even these efforts failed to raise the lung temperature beyond 2.8° F. above the normal.

In view of the statement that a temperature above 102° F. retards the growth of tubercle bacilli, it is of interest to note that the normal temperature of rabbits is 102.5° to 103° F.; that of guinea-pigs, 103° F.; of monkeys, 102° to 102.5° F.; of pigeons and fowls, 108.5° to 110.5° F.; whereas it is well known that all of these animals are readily affected by pulmonary and other forms of tuberculosis.

Experiment X.—The laws of the relations of temperature to evaporation of fluids are too familiar for repetition here, but the following simple experiment is a striking illustration of the rapidity with which the heat of the air may be radiated from a non-isolated conducting tube, and of the rapidity with which it becomes latent in vaporizing water.

Through one end of a piece of rubber-tubing, 3½ feet long, of ⅝ inch bore, and 1½ inch thickness, a strong continuous current of air was forced as rapidly as a large reservoir-bellows could be operated. The temperature of the air at the tube entrance was recorded, at a distance of fourteen inches it was again recorded, and at the exit, three and one-half feet distant, a third thermometer was placed. The air was forced through for some minutes, when the temperature read as follows: Entrance, 260° F.; 14 inches from entrance, 205° F.; 3½ feet from entrance, 130° F. The tube was then moistened on the inner surface by pouring water through it. All the water was removed, except the little which wet the inner wall of the tube. Hot air was again forced through for some minutes at 280° F. (138° C.), when the exit thermometer recorded only 90° F. (32° C.). Therefore, merely moistening the tube caused a fall of 40° F. in the exit temperature.

Experiment XI., showing the effect upon the hot air of vaporization of water.—Large mongrel bitch, weighing eighty pounds. Normal temperature: Rectum, 103.5° F.; vagina, 103.5° F. The abdomen was opened, and the large intestine was cut in two. A half-inch glass tube was inserted in the distal end, and a stream of water was forced through the instestine toward the anus, to wash out the rectum. The intestine being clean and empty, a large glass nozzle was fitted air-tight into the rectum, and through it a stream of hot air was blown, which traversed the large intestine and passed out at the abdominal opening, where a thermometer recorded the exit temperature. The temperature of the injected air at the rectum was started at 200° F.; in eight minutes it rose to 300° F., at the end of half an hour to 340° F., while the entrance temperature rose from 200° F. to 300° F.; the exit temperature rose from 90° F. to 98° F. only. Later, as the air-current was greatly quickened and the intestine became a little drier, the exit temperature rose to 120° F., but I was unable to get it above this limit, though the hot air-current was continued twenty minutes longer (fifty minutes in all). To estimate roughly the relative quantity of moisture in the dry, hot entrance air and the same air after traversing the moist mucous surface of the intestine, I used a hygrometer. The instrument was not accurate, as the scale was somewhat arbitrary, but it served to show the relative moisture. Upon this hygrometer scale of 100° the air of the room stood at forty-seven per cent. My own deeply exhaled air indicated seventy-eight per cent., the hot, dry air at the dog's rectum ten per cent., and on emerging from the intestine above, sixty-two per cent. During the entire experiment the mouth temperature remained unaltered at 102° F. The abdominal incision was then closed, and the animal, after recovering from the chloroform, ran actively about the laboratory. An hour later she was killed. The injected hot air had been so thoroughly cooled, that I expected to see that several feet of intestine had been traversed, but great was my surprise to find that the distance from the intestinal incision to the rectum was only five inches. In other words, the moisture of five inches of intestinal wall by evaporation cooled the air from 340° F. down to 130° F., and maintained this reduction through fifty minutes, although the air-current was as rapid as a large bellows could make it. Curiously enough, the dog, constantly anæsthetized, was far more distressed during the experiment than were any of the other dogs after inhaling hot air for even longer periods. At one time the respirations rose to 98 and were very labored, and I was obliged to discontinue the injection to allow the animal to recover, which she did very promptly.

Cold Air in Hæmoptysis, Pneumonia, and Tuberculosis.—Dr. P. de Tullio, of Naples, has recently suggested the employment of cold-air inhalations for control of pulmonary hemorrhage. He forced air through a coil of tubing surrounded by ice and salt, and cooled the air to 0° C. He claims to have checked hæmoptysis in three severe cases, after failure with other means, such as drugs, ice to the chest, etc. In the *Meaical Recorder* for 1889, Dr. G. Lipari, of Palermo, in discussing the etiology of pneumonia, thus explains the influence of cold air in occasioning that disease. He says that cold atmospheric air, when inhaled, paralyzes the ciliated epithelium of the bronchi, and causes their mucous membrane to swell, and this favors the descent of the pneumococci into the alveoli.

So much for theory. The facts concerning the supposed inhalation of cold air are no less striking than those above cited in regard to inhalation of hot air. I took the same coil used for the hot-air experiments and imbedded it in a mixture of snow and salt; the bellows was operated outside of the window, in an atmosphere of 27° F. In this way the air after passing through the coil registered less than 40° F. at the animal's nose.

Koch says that a temperature of 85° F. (29° C.) must be produced before tubercular bacilli are checked in their growth.

Experiment XII.—Large dog, chloroformed. Temperature before inhalation: In trachea, 99.5° F.; in lung, 99.6° F.; in vagina, 101° F. Inhalation continued one and a quarter hour. Temperature in coil, 30° to 27° F. Temperature at nose, at commencement, 65° F., rapidly reduced (as inhaler was cooled by air from coil) to 40°, and finally to 37° F.

Temperature in the trachea fluctuated 4° with each respiration. During crying, under partial anæsthesia, it would fall with very deep inspiration 1° to 2° below the average record in the trachea at the time. The tracheal temperature gradually fell, and at the end of one and a quarter hour, the total fall was 10.4° F., whereas after three-quarters of an hour interval, the temperature of the lung remained unaltered, and in the remaining half-hour, when the room and the animal's body grew cold, it fell only 2° F., and the vaginal temperature fell 3° F.

The animal recovered promptly his condition when allowed to get up, and seemed uncommonly lively. A fall of only 2° F. in the temperature of the lung, after one and a quarter hour of inhalation of air below 40° F., will never

be sufficient to control pulmonary hemorrhage through vaso-motor stimulation. No one would think of controlling capillary oozing on the surface of the body by reducing the local temperature only 2° F.! Even should the hemorrhage come from the vessels of the upper trachea, the fall of only 10° F. there would not control it. It often requires prolonged direct application of ice to produce sufficient vaso-motor stimulus to control hemorrhage, and even that has frequently failed in post-partum hemorrhage.

Experiment XIII.—Cat, chloroformed. Temperature before inhalation: Lung, 99° F.; rectum, 99° F. Inhalation of air at 40° F. (at nose) was continued for one hour, when the temperature of the trachea was found to have fallen 5.2° F. The temperature of the lung fell only 3° F., and that of the rectum 4° F. I have often seen the temperature of a cat fall considerably more during operation under prolonged anæsthesia. There was 1° F. of fluctuation between inspiration (fall) and expiration (rise) in the trachea.

It is very difficult to conduct air from any cooling apparatus to the mouth without its gaining a few degrees in temperature if the room is warm. I have found it so even when external air was used at 27° F. and forced through an iron coil eleven feet long, imbedded in snow and salt. It would be doubly so in summer, when the warm atmospheric air must first be cooled in the coil. It is possible to cool air in this manner to nearly the freezing point, but it would be hardly practicable to do so for cases of sudden pulmonary hemorrhage. Moreover, the cool air, as it enters the mouth or nose, meets a surface constantly warmed by the air of exhalation, and by the local blood-stream. If, every time that we stepped from a furnace-heated room on a winter morning, into an atmosphere below the freezing-point, the temperature of our lungs fell 10°, or even 2°, we should have to be constructed on the principle of batrachians to survive it.

In a discussion before this Academy on November 26, 1889, Drs. Beverley Robinson and J. M. W. Kitchen called attention to the clinical fact that patients who have been using warm inhalations are particularly liable to contract colds on going too suddenly into a cooler atmosphere. This is doubtless true, but I think that it must be attributed to the influence of subsequent atmospheric changes upon the upper air-passages, and not to any effect upon the bronchi or lungs.

In performing all the experiments reported, I have received very valuable assistance from Dr. T. D. Coleman, and from Messrs. W. Coleman, Coudert, and Holden, students at the University Medical College.

Conclusions.—The following conditions combine to secure a uniform mean temperature of the air in the lungs, and prevent the entrance of superheated air, as such.

The great vascularity of the pulmonary tissue; the extensive surface of the air-sacs and blood-vessels; the slow diffusion of the tidal with the residual air; the uniform temperature of the blood; the remarkable heat-regulating mechanism of the entire body, which constantly tends to prevent local increase of temperature through the agency of a very rapid blood-stream; the low specific heat of water, and of the blood, which is so largely composed of water; the large quantity of blood in constant circulation, approximately fourteen pounds in man; the enormous number of heat-units rendered latent by vaporization of water, and the ease with which water can pass from the blood-plasma to the surface of mucous membranes, in considerable quantity; the conduction of heat by the body tissues.

Conclusions derived from the preceding experiments upon cats and dogs:

1. Continuous inhalation of air heated from 200° to over 300° F. at the nose does not raise the temperature of the lungs at all in some cases, even when inhaled for an hour or more.

2. In other cases, if continued for an hour and more, there may be a slight rise of from 2° to 4° F., due to various causes other than the entrance of hot air into the alveoli.

3. The temperature of the trachea under corresponding conditions rises only 4° to 7°. Cold air does not affect the temperature of the trachea or lungs any more than hot air, and is therefore equally useless as an inhalation for any clinical purposes whatever.

I have received, too late for review in this article, a very valuable paper upon the theoretical objections to the use of the hot-air inhalation treatment. It is by Dr. W. L. Cary, physician to the Brooklyn Throat Hospital, and it is altogether the most able and scientific refutation of the hot-air inhalation theory, based upon purely theoretical grounds, which has yet appeared.

There are doubtless many physiological experiments in regard to which one must not reason too closely from the lower animals to man, but it seems to me that the fundamental conclusions derived from the experiments herein reported, are of a type which must necessarily apply to man as truly as to the lower animals, because they are based upon sound laws of physics, and they afford one more illustration of the great value of vivisections, conducted with the object of preventing the employment of methods powerless for the relief of human diseases, the ignorant use of which can only bring great discomfort to the patient.

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The Question of Contagion in Influenza.—Dr. A. A. Armstrong, of Fair Haven, N. J., writes: "The following fact offers strong evidence against the contagiousness of la grippe. It is that during the epidemic I treated over two hundred cases without getting the disease, but am now recovering from a severe attack contracted when I had no cases at all." On the other side is the following from *The Sanitary Inspector:* Dr. Trudeau, who has charge of the Adirondack Cottage Sanitarium for consumptives, fearing that an attack of the prevalent influenza might prove disastrous to many of the invalids, quarantined the place against the disease as soon as it appeared in the neighborhood. And, writing January 30th, he says that while the disease has attacked a great majority of the people living in the surrounding country, and dwellers and visitors at the villages and boarding-houses, there has not been a single case in the sanitarium.

THE HOT SPRINGS OF ARKANSAS AND THE TREATMENT OF SYPHILIS.[1]

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In compliance with the earnest wish of the enterprising Secretary of this Society that I should contribute to its proceedings, I have decided to direct your attention this evening to the question of the value of the Hot Springs of Arkansas in the treatment of syphilis.

From time out of mind the waters of mineral springs have been regarded by the laity as curative and even specific in the treatment of skin diseases especially, and in certain visceral and arthritic diseases. There has been, and perhaps always will be, a deep-rooted belief that waters made in the laboratory of nature possess an occult and potent effect far in advance of any production of the chemistry of man. Among the many and varied mineral and thermal springs of this country those of the Hot Springs of Arkansas have undoubtedly taken the most prominent rank, and among the laity, and even among the profession, there is a widespread belief in their efficacy in syphilitic affections, skin diseases, and those of a rheumatic nature. For many years I have had exceptional opportunities for studying the effects of the waters of the Hot Springs and the treatment pursued there upon patients who have been under my care and were temporarily sent there for benefit; upon patients who had been under other physicians prior to their sojourn there, and upon cases whose treatment had been begun there. From this large number of cases I hope to be able to present a fair estimate of the value of these springs as a therapeutic resource in the treatment of syphilis. Having done this, I propose to review in a general way the methods pursued among us in the treatment of syphilis, and to see how far the faultiness and derelictions in these methods are responsible for the fame or notoriety of these thermal springs.

An analysis of the water of the most prominent springs in the Arkansas Valley shows that their chief ingredient is silicic acid, and that it, with iron, alumina, lime, magnesia, potash, soda, with traces of iodides and bromides, exists in the proportion of eight and one-half grains to the gallon of water. It is very evident that no startling effect can be produced by this natural solution, yet some of the advocates of the springs speak in quite positive terms of the specificity of the waters, whatever that may mean. Others claim that their benefit resides in the electricity produced by chemical decomposition, with which they are said to be charged; while others think that they are imbued with a peculiar heat which is curative. To my mind the salutary and hygienic effects of these waters (as far as they are productive of good) resides in their heat alone. The stimulation of the capillaries and of the circulation generally, including the lymphatic system, as well as the stimulation of each individual cell of the skin, by the heated water, and the brisk frictions subsequent to the bath, in my judgment act as profound vitalizing agents and are productive of great benefit. But there are many accessory conditions which appertain to a sojourn at these thermal springs which play a very important part in the hygienic reconstruction which is often gained. Having taken the long journey, frequently, and after much anticipation, preparation, and often at great sacrifice in the matter of time and money, patients arrive at the springs with an earnestness of purpose and with a fixed idea that they will make any personal sacrifice, particularly in the matter of creature comforts, in order to be benefited or cured. They for a time undergo personal reformation, and usually sedulously refrain from alcoholics, from tobacco, from the card-table, with its late hours, and from sexual indulgence. They, as far as they can, leave behind them all business and social cares; they eat regularly; go to bed early, and perhaps sleep late, and, in short, conform as far as possible with the most rigid hygienic rules. Then, again, they have an entire change of scenery and of domestic relations, and, in fact, of the whole routine of life. They breathe a pure air; have plenty of opportunity for outdoor exercise, and generally enjoy rest and contentment. Certainly no one can ask for more auspicious auxiliaries to medical treatment.

It has been claimed that the sedation and tendency to sleep induced by the baths at the Hot Springs are peculiar and due to some occult effect of the waters. It is true that, as a rule, hot baths usually have an opposite effect, but I have many times seen the same soporific result follow hot salt-water baths taken at our seaside resorts. Then, again, in many instances, I have found that excitement and sleeplessness followed baths taken at the Hot Springs.

Let us now consider the conditions in which benefit may accrue to syphilitics who undergo treatment at the springs. While I am disposed to give this celebrated resort its full meed of praise in the treatment of syphilis, I must here state my emphatic belief that, in the majority of cases, there is not the slightest necessity of going so far away to attain a cure, and that a very large number of the cases which go there do so because they have not been properly handled at their homes. In other words, the faultiness in the physician's methods of treatment and his shortcomings in the management of his patients are, in many instances, the real reasons why patients have to betake themselves so far away for relief. This portion of my subject will be fully considered later on. Then, again, in very many instances the apathy of the patient; his carelessness and irregularity in following treatment; his absorption in business matters; his often flagrant want of attention to health and hygiene, so impair his physician's efforts that he perhaps obtains no good, and possibly grows steadily worse.

At no time during the primary stage of syphilis does treatment at the Hot Springs offer any advantage whatever. Treated on the classical lines, the chancre can always be healed, and in the rare event of phagedæna we are certainly at home as well equipped as our colleagues at the springs. In like manner no peculiar benefit can be derived in the early exanthematic stage. At this time the general health and nutrition of patients is usually good, and they, as a rule, respond readily to the action of mercurials. Indeed, under proper treatment in the vast majority of cases in this, the crucial period of the disease, they may be so benefited that the backbone of their ailment may be broken. I allude to the early part of the secondary stage of syphilis as being the crucial one in their history, because I firmly believe that if patients are then treated actively, suitably, and with due conservatism, a future immunity to the disease may be gained, that is, that they may be cured.

I believe that the rebelliousness and malignancy of syphilis which are seen in many cases during the secondary and the tertiary periods, are due to the fact that at the onset of the disease the treatment has been too much attenuated, that it has been prosecuted with apathy, or that it has not been adopted at all. Early in the disease the newly formed infecting granulation cells are proliferated in great abundance, they possess a great tendency to multiplication, and to permeate the tissues generally. Lodged in the tissues they induce irritative and inflammatory processes which modify their structure, and perhaps interfere with or destroy the functions of organs and parts. In this way dermal, cerebral, spinal, ocular, and visceral troubles are induced.

To my mind no duty can be more clear and imperative than that which should prompt us to use actively and boldly, but with cautiousness and circumspection, the remedies which will destroy these young infecting cells, which we know have this great power of multiplication early in syphilis. These cells are more easily disintegrated and absorbed when they are young than when they are

[1] Read before the Clinical Society of the New York Post-Graduate Medical School, January 11, 1890.

older, and if they are permitted to remain they almost inevitably increase in vast numbers, become scattered throughout the system, and then act as foci for the perpetuation of the disease, and starting-points, after periods of quiescence, of later reinfection.

There is a stock phrase used by many that mercury and time will wear out syphilis. It conveys a vicious teaching and leads us into a free-and-easy, happy-go-lucky, procrastinating way of treating this serious disorder.

In treating syphilis we should put in our most effective work when the disease is most amenable to our blows, and not dally with it and allow it to gain firm hold on the system. Therefore, I say that if an energetic and systematic treatment of syphilis is begun early and followed up, few cases will feel the necessity of going to thermal springs for relief. But, as I have already said, some cases will not be well treated, and others will not avail themselves of good treatment, therefore it is probable that in all time these syphilitic pilgrims will journey to their Mecca for reconstruction and health.

While I am an earnest advocate of early and energetic medication in syphilis, I think that the end is best attained by slow and persistent efforts, and that high-pressure treatment is productive of harm. This is well shown in the following case :

Case I.—A man, aged thirty-seven, descended from perfectly healthy parents, in vigorous health, and weighing one hundred and eighty pounds, contracted syphilis in September, 1888. In October he noticed a chancre on his penis and went at once to the Hot Springs. The nature of this lesion being in doubt, nothing in the way of general medication was done for a time. On the 26th of November he was found to be covered with a roseolous and papular syphilide, and that the ganglia over the body were much enlarged. He was immediately ordered double rubbings with mercurial ointment, to take ten grains of the iodide of potassium thrice daily, and to take a daily bath of a quarter to half an hour's duration at a temperature of 100° or 101° F. He had the double-quantity inunction made upon him for six days, during which time he was liberally dosed with opium and essence of ginger to lock up his bowels. Being unable to stand this very active treatment the inunctions were omitted for a few days, but during all this time the quantity of the iodide of potassium was being increased daily. The inunctions were resumed daily after his bath, in the ordinary dose generally administered, until January 7, 1889, when he had taken in all thirty-six inunctions. At this time he had reached nearly three hundred grains of the iodide, in divided doses, daily. While he was under treatment he had every hygienic advantage which could be obtained at the springs. On his departure he was told in a general way that later on he might need treatment, but he reasoned to himself, as very many do, that he had had a very thorough course of treatment, and he felt that the baths must have had some mysterious but salutary effect. On his arrival home in the South he felt tolerably well, though he weighed only one hundred and forty-five pounds, having lost thirty-five pounds during his sojourn at the springs. He remained without treatment, feeling secure and confident, for a month, when he began to realize that he was far from well. At this time a general papular eruption, with much malaise and debility, appeared. He then was treated indifferently for many months and grew progressively worse. He came to me October 1, 1889, in the following condition: On the forehead, near the hair border, was a semicircle of papular tubercles, on the left ala nasi was a large tuberculated patch skirted by a number of scaling papules; on the right wrist was a very large tuberculated mass, nearly an inch in thickness; over the right shoulder was a group of tubercles as large as one's hands; over the legs were small groups of tubercles, and there was gummatous infiltration into the hard palate (bone and mucous membrane), and into the velum palati. His weight was about one hundred and forty pounds, his strength was much lessened, his facies was sallow and haggard, and his general morale was greatly depressed. He was put upon tonic treatment, received regional mercurial medication for his lesions, and took in irregular alternation both mercurial baths and the mixed treatment in full strength. He now (January, 1890) claims that he is very well, weighs one hundred and eighty pounds, is attentive and zealous in the discharge of his duties, enjoys life, and confidently looks forward to a ripe and happy old age.

This case is one of many similar ones which have come under my notice after a sojourn and treatment at the springs during the exanthematic period of the disease. It carries with it important lessons. It shows us the heroic routine, or as I have heard it called, the "lightning course of treatment," which is often pursued there. While I am an ardent advocate of a full-measure, well-ordered course in the early period of syphilis, I must protest against such indiscriminate medication as was pursued in this instance. I know full well that under the conditions which exist at the springs larger quantities of mercury can be used than are possible when the patients are at home; but my observation teaches me that when thirty-six inunctions, six of which are of double strength, are administered in a period of forty-three days, that though the visible lesions of syphilis may disappear, the patient's ultimate condition is made worse and often rendered precarious. It is this seeming necessity to do so much in a very short time, and to crowd in one month a course of treatment which should be extended over two or three, that in my judgment really works harm to the patient rather than good.

In its early stages syphilis should be treated thoroughly and persistently, but we should never resort to high-pressure principles. Let us do all we can to bring our specific agent—mercury—to work as directly as possible on the new infectious material which permeates the patient's system, but let us not try to work a revolution. Had this treatment administered to this man been interrupted by intervals of a few or several days, its outcome would have been beneficial.

Special stress should be laid upon the fact that during treatment this patient was actively dosed with preparations of opium in order that the inunctions should not cause diarrhœa. Such a practice is to my mind very reprehensible. No man's nutrition is in a normal state whose system is under the influence of opium, and I claim that we can never determine the exact condition of a patient nor the progress we are making with our anti-syphilitic remedies while he is in the power of that drug. I have seen many patients like the one whose history I have just narrated, who have, figuratively speaking, gone to pieces very soon after they had left the exhilarating atmosphere of, and the conditions which prevail at, the Hot Springs.

Then, again, there is another very important consideration regarding syphilitics at the date of the onset of their malady. Though they may have been deeply impressed with the gravity of their condition, they often become lulled into a feeling of false security after a sojourn at the springs. I have seen many patients who in later years have suffered severely from syphilis, who on the breaking out of their disease had hastened to the Hot Springs. They there underwent a course of treatment and the evidence of their disease vanished. Thinking that besides the skill of man they had, as we may say, supernatural aid from the wells of nature, many have gone away with a sense of happy security, imagining themselves cured; others have thought that a similar sojourn a few months or a year later was all that was necessary; while others again have decided to apply for medical aid only if they should notice later manifestations of their disease. This glamour of security and health conferred by the mystery of the waters has brought many a man to invalidism and death through some late-appearing cerebral or visceral lesion of syphilis.

In justice to a number of the many eminent and skilled

practitioners at the springs, I must here say that I know personally that they have impressed many of their patients with the fact that the early course of treatment followed there should not be looked upon as final, but as only the beginning of their efforts to attain a perfect cure.

It is only fair to state that there are practitioners at the springs who do not begin the treatment of early syphilis fully in the high-pressure manner detailed in the foregoing case, since many of them I know do not thus prematurely use the iodide with the inunctions, but owing to the exigencies of the cases and to the limited time allowed for treatment, high-pressure principles largely prevail, and, as I have said before, they are not productive of ultimate benefit.

All fair-minded men, however, who have much to do with the treatment of syphilis, must certainly admit that in certain cases and in certain conditions a sojourn, under proper medical care, at the Arkansas Hot Springs is very often followed by the most gratifying results. It certainly must not be thrown up as a reproach to these skilful men at the springs that they treat in the routine way such a large variety of cases, since they have no option but to do so; and when such large numbers apply for treatment there is not much latitude for variations of method or choice of remedies.

I myself have sent many cases to colleagues at the springs, and have never had occasion to regret it, and I am glad that as a therapeutic resource we have these springs at our command in cases of urgency and need. While in general we can readily handle the cases of ulcerating syphilides, including the impetigo form, the ecthyma form, the rupial and the serpiginous, we certainly do find instances which are rebellious and which improve wonderfully at the springs. In these cases, however, we have usually, as complicating conditions, anæmia, debility, mal-assimilation, in which event specific medication is more or less slow or impotent in its working. Then, again, many of these cases have run the gamut of mercurial and iodide of potassium treatment, and these remedies then act as depressants, rather than as anti-syphilitics. In such cases the change of scene and air and the baths are of inestimable value.

The matter may be summed up in this way: In many cases where cachexia, due to any cause, and intolerance of the usual specific medication are found to exist and the activity of the syphilis still persists, treatment at thermal springs is indicated.

In many instances of gummata in broken-down subjects the baths are often of great value, and I have seen gummatous infiltration in the throat much benefited by the treatment used at the Hot Springs.

The osseous and articular lesions of syphilis may only be temporarily benefited in Arkansas, but late syphilitic rheumatism, rheumatic conditions complicated with visceral disease, combinations of gout and syphilis, late syphilitic cachexia without visible lesions, and the generally broken-down state of old syphilitics addicted to alcoholic and other indulgences are all frequently much benefited and some cases thereafter enjoy fairly good health.

Then, again, when, owing to the usual causes already spoken of, syphilis does not go on auspiciously to its extinction, a sojourn at the Hot Springs is often of decided value for its moral, as well as its physical effects. Such patients when at home live in a rut, and while they perhaps keep at their daily affairs, they are depressed and perhaps more or less despondent. Change of scene, of air, of habits and customs enliven them, while previously the treadmill of their existence had made life burdensome.

In persistent cerebral and spinal affections of the most varied character due to syphilis, and the various morbid states and dyscrasiæ which so commonly complicate it, protracted sojourns at the Hot Springs are often productive of marvellous results. In these cases very often the tolerance of anti-syphilitic agents, which are so necessary to relief and cure, is obtained, and patients are often rescued from invalidism and death. Had I the space at my command I could recount many histories in proof of this statement.

But there are still other considerations offered by the treatment pursued at the Hot Springs. Many cures are there made for the reason that mercury is not withheld from the sufferer as it had been at home. Many of the Hot Springs physicians are alive to the fact that the methods of treatment pursued by many surgeons in the large cities are faulty. These latter often fail to cure their cases for the reason that they use mercury in too small quantities. They do harm with the drug rather than good; they do not eradicate the disease, but by their timorousness and want of vigorous treatment induce a condition of hydrargyrosis—a mercurial cachexia. I have seen many instances of this complication. At the springs, after proper preparatory treatment, they receive mercury liberally, and it acts upon them physically and morally like the grace of God. This fact to my knowledge will account for many seemingly surprising cures made at the Hot Springs.

Then, again, there are teachers who inculcate the doctrine that mercury is only beneficial in the early part of syphilis, let us say in its first year. After that it is by them taught that its function is ended and the era of iodide of potassium begins. This fallacious doctrine often works sad havoc on patients, and they hie them to the springs to regain their health and to get their sovereign panacea, and they get it. This is no such specious doctrine taught in Arkansas. The eminent men there know that mercury alone or in combination with the iodide of potassium is beneficial, as a broad rule, in all stages of syphilis, and they do not withhold but often give it with a lavish hand. They do not sit down when a case is before them and with pencil and paper cipher a grain of a mercurial salt into fifths or sixths, or revolve in their mind the minimum or maximum dose; they see the exigencies of the case and lead off on a full dose and watch events. This to my knowledge has been productive of surprising results to the patients many times. If the same general plan had been followed at the patients' homes, they would not have had the necessity of knocking at the Hot Springs surgeon's door and of begging for relief.

In like manner in many instances the administration at the springs of iodide of potassium in large and increasing doses has cured cases which languished in suffering and disease at home because only small doses were given. But I think the tendency to minimize the dose of the iodide of potassium is not as widespread among the profession as it is in the case of the mercurial preparations.

In the foregoing paragraphs I think I have shown that the successful treatment of syphilis at the Hot Springs is in many instances due to the derelictions and shortcomings of the home physicians who were imbued with faulty ideas as to the dose of mercury necessary for cure, and often to the method of use.

I think that in a large number of cases (and I have seen scores of instances) patients have resorted to the Hot Springs for treatment of syphilis because their cases were not actively handled, were not thoroughly medicated, or were treated in a free and easy, happy-go-lucky manner, or were treated in a too stereotyped way at their homes. But here it is well to remember that many cases of syphilis do badly or go wrong in consequence of the apathy and want of care and the indulgences on the part of the patient.

Let us further consider the errors in treatment which have resulted disastrously to the patient and have caused him to resort to the Hot Springs. I shall in this connection only state facts which have come under my own observation.

The use of iodide of potassium in the early stage of syphilis, particularly in large doses, is often followed by the most distressing and aggravating results. Early in

syphilis especially this agent is strongly contraindicated, for the reason that then the skin and mucous membrane are in a very irritable state, prone to exudative inflammation and to ulceration. Now in many patients, particularly those afflicted with an idiosyncrasy to this drug, dermal congestions and follicular inflammations of the skin and mucous membrane are frequently produced by it. As a result of these inflammatory foci, the neighboring lymphatic ganglia also become much inflamed, and severe complications are often the result. Then, again, it is not uncommon in the early months of syphilis to see the follicular papules and pustules, flat papules and plaques, induced by the iodide of potassium on the subsidence of the acute inflammation, become transformed into lesions which the most skilful observer would take to be undoubtedly syphilitic. In other words, the iodide of potassium produces in syphilitics inflammatory foci which may become transformed into true specific lesions. Then, again, these inflammatory lesions of skin and mucous membrane often fall into ulceration which may present the physiognomy of classical syphilides.

It is imperative that in early syphilis particularly all sources of irritation of the skin and mucous membranes should be avoided and prevented, and it is especially prejudicial to the patient to cause him to swallow a medicine which at that time is liable to be followed by such troublesome and often dangerous sequelæ. Further than this, iodide of potassium alone is almost inert in the primary and secondary periods of syphilis, as anyone can readily learn who will try to cause an initial nodule to melt away or a papular rash to fade under its influence. Let me here narrate two cases which were treated in this reprehensible manner and in which it was thought by some that cure could only be obtained through a sojourn at the Hot Springs. These cases are reported to show the ill effects of the iodide when used early in the disease, and also in order to demonstrate the fact that even when syphilis is thus disadvantageously complicated it does not follow that they cannot be cured at home.

While I am anxious to state in all fairness and justice the good results which may be obtained at the Arkansas Hot Springs, in bad and complicated cases of syphilis I certainly must claim that in the vast majority of cases our methods and resources at home are equal to all demands for relief and cure.

As nothing has been written thus far with the end in view which I aim at, I think no apology is necessary for the following histories:

Case II.—A man, aged twenty-four, had hard chancre and inguinal adenopathies followed by a general roseola. He was ordered iodide of potassium in eight-grain doses four times a day. In four days a papulo-pustular eruption appeared on back, chest, arms, and outer thighs. The medicine being continued, large papules and urticarial wheals appeared over the body and extremities. At this time the itching and burning became so severe that, as a result of scratching, most of the lesions were converted into active ulcers, which were seated on large plaques of hyperæmic and œdematous skin. When first seen by me he was in a deplorable condition, movement of the arms was difficult and painful, and locomotion was much impaired by the swelling and soreness in the legs. His digestion was bad, his mouth and throat sore, and his nutrition going from bad to worse. The ganglia over the whole body were much tumefied and somewhat sensitive. He was brought to me for relief, with the suggestion that perhaps he had better go to the Hot Springs. He was sent to the sea-side to recreate and to take hot salt-water baths. Internally he took quinine and nux vomica and easily digestible, nutritious food. Locally he was treated with daily inunctions of thirty grains of an ointment composed of equal parts of blue ointment and cold cream. About once in four days ninety grains of the bichloride of mercury were added to his regular thirty-gallon bath of hot salt water. In six weeks he returned with good digestion, much increased weight, vanished dermal lesions, and with an aptitude for the ingestion of the necessary daily quantity of mercury for the proper continuance of his treatment. In due time he was cured.

Case III.—A man, aged twenty-one, having such early secondary manifestations as roseola, rheumatoid pains, cephalalgia and general adenopathy, was promptly put on the use of iodide of potassium in ten-grain doses, thrice daily. His roseola became deeper in hue and to a large extent markedly papular in character. His throat became red and swollen, his tongue thick and painful, and he lost his appetite and his strength failed. In addition, he had swelling and redness of the eyes, and nasal obstruction. In a few days ulcerations appeared in the pharynx and on the tongue, and very soon the submaxillary and cervical glands became markedly swollen and tender. Upon the extremities the syphilitic lesions developed into inflammatory plaques, and the burning and itching sensations were very severe. This man also had an impression that his only salvation was to be found at the Hot Springs, but circumstances compelled him to stay in New York. His mouth and pharynx were carefully attended to, his digestion was improved and his strength increased by proper medication. Locally he took at first alkaline and bran baths and then bichloride baths, and was rubbed freely with a mild calomel ointment every day. This treatment, which was aided by an occasional outing in the country for a few days, worked auspiciously, and in ten weeks he was free from his pharyngeal and dermal trouble, though his ganglia were still enlarged. He, however, was in a sufficiently good condition to begin and to continue a proper anti-syphilitic treatment.

In this connection I may briefly report one more case, showing the baneful effects of iodide of potassium when badly used late in syphilis.

Case IV.—A woman, forty-three years of age, had syphilis ten years before, for which she was treated indifferently for less than six months. She suffered for years from a succession of lesions of the skin, bones, joints, and mucous membranes, for which she spasmodically underwent treatment. In the tenth year of her disease she was attacked with a large tubercular nodule in the skin, over the left nasal bone. She was promptly put on iodide of potassium, beginning with ten-grain doses four times daily, which was quite rapidly increased. When she had taken this agent for about a week, it was noticed that her face became red and swollen, particularly near the nasal lesion; the dose, however, was continued and increased. Then large inflammatory plaques, nodules, tubercles, and hæmorrhagic bullæ appeared all over the face, scalp, and neck, yet the dose was progressively increased, as the local lesion did not yield. Then, when she was taking nearly four drachms of the drug daily, her hands, arms, and feet became similarly affected. In this woe-begone condition, with her head much enlarged, her throat, hands, arms, and feet swollen and painful, with utter loss of strength and digestion, she was brought to me. By means of tonics, change of air, alkaline baths, bichloride baths, friction with mild mercurial ointment, and particularly by means of a local mercurial treatment to her facial lesion, she was restored to health in rather more than three months.

If in this case active local mercurial medication had been applied to the lesion over the nasal bone, and a mild mixed treatment administered internally, it would have rapidly disappeared without any untoward complication. But the iodide was given blindly, regional treatment was not thought of, and the patient came to grief.

I have been much impressed, of late years, with the almost entire want of appreciation, and often ignorance, on the part of physicians, of the inestimable value of local or regional mercurial medication. The foregoing case exemplifies this point admirably, and I have seen many other cases of lesions of mucous membranes of the skin, of the bones and the joints, and of the brain and spinal cord, in which patients have been brought to a condition of cachexia, and even marasmus, by ill-advised heroic in-

ternal medication, when a well-directed, energetic local or regional treatment would have caused the subsidence of the lesion or a mitigation of the trouble, and when proper internal medication, simultaneously administered, would have been accessorily beneficial.

To my knowledge many a case has gone to the Hot Springs in a deplorable condition, in consequence of the over-dosing used to cure a local syphilitic infiltration or hyperplasia, which would have readily yielded to regional treatment, combined with a mild and salutary internal system of medication. The profession have yet much to learn in this direction in the treatment of syphilis, and it will be well for humanity if the lesson is learned early and thoroughly.

There is another reason why syphilitics often do very badly and, failing to get relief at home, seek for it at the Hot Springs. In my judgment, in the reaction from the large doses of mercury given by our forefathers, we have gone to too great an extreme—we have made too big a jump. The treatment of syphilis will never be on a permanently satisfactory basis as long as we blindly persist in the fixed and attenuated doses which are advised by many. The teaching of some authors carries with it too much arithmetic in the matter of the dose, and too little attention to the necessity of study and observation of the patient. No iron-clad rules can be laid down for the dose of mercury, generally, since no two cases are alike in yielding to a certain quantity. All we can do is to give approximative ideas. Therefore I say that we should not, as many do, content ourselves with the thought that our patient is taking, say, three-fifths of a grain, or four-fifths, or even a grain, and hope that all will be right. We should see what our agent is doing, we should watch the patient continually and closely, and, if the lesions and symptoms do not clear up, increase the dose until they do, or this failing, we should substitute some other method of administering the mercury. I have seen many cases do badly, and then physicians remain content and placid, thinking that they are giving the proper amount of the drug, and that in time, with its continuance, all would be well. With the inauguration of attenuated dosage, and a very prolonged treatment of syphilis, an easy and happy-go-lucky state of mind has taken hold of many physicians. A number of them seem to think that if their arithmetic of dosage is all right and they keep on, time will work a cure. It is far from my purpose to imply that I advise an heroic or overwhelming use of mercurial salts, for I do not. My position is that the patient is the problem to be studied, and that the question of dose should arise out of the deductions derived from its study, and that all iron-clad formulæ of stereotyped doses are unscientific, and liable to be productive of failure or disaster. Therefore, I say that we should watch and guard the mouth, throat, and alimentary canal of our patients, and remove from them all irritation and sources of irritation in order that our agent may be readily assimilated.

Nothing can be more fallacious than the dogmatic laying down of fixed doses which are based on the condition of the mouth, tongue, and alimentary canal, since these are often in an abnormal state which is easily rectified, and again when irritated can readily be brought back to health by appropriate local treatment. In a great majority of cases, proper attention to the mouth, pharynx, and intestinal canal will be followed by a satisfactory tolerance of mercury taken by the mouth. If the suggestions contained in the foregoing paragraphs are heeded, there will not be many cases of mercurial intolerance seen, and few patients will have to journey to Arkansas to obtain that tolerance.

Another source of failure in the treatment of syphilis, and one which is frequently productive of great distress, and even disaster, lies in the fact that too much reliance is placed by some on the effect of mercury administered by the mouth. The treatment of syphilis should be based on broad grounds and not pursued in a narrow gauge. The student should be taught that while mercury given by the mouth should be the regulation standard of treatment, that thus administered the agent may fail, that circumstances and conditions may arise in which it is inoperative and even prejudicial, and that then there are other methods of great certainty and value to fall back upon.

Both in hospital and private practice I constantly see syphilitics who have done badly, and whose cases have been considered extremely rebellious and even hopeless by themselves and their physicians, which can in a short time be brought to a satisfactory state by a judicious modification of the treatment, and by the adoption of various expedients which their history suggests. I can best illustrate this point by the brief recital of three cases, each of which carries with it an important lesson.

Case V.—A woman, aged twenty-two, thin and sickly, had a hard chancre late in July, 1889, which was followed by an erythematous syphilide and other early manifestations in the first part of September. Under protoiodide of mercury, iron, and quinine, and careful hygiene, the rash disappeared and she was tolerably well early in October. Having taken the mercury in quarter-grain doses thrice daily, until the first of November, as there was no contraindication, the drug was increased to a grain daily, in four doses. It was noted that all along she progressed only fairly as to her general health and that her symptoms yielded rather slowly. While under all the mercury which was deemed prudent to give her, during November she lost flesh and strength, and her digestion became impaired. During this period a small miliary papular syphilide appeared on the forearms, and from there spread over the whole body, and the ganglia generally became much enlarged. Noting that the case was one of a class which we so constantly see, in which mercury by the stomach failed to control the disease and tended to induce malnutrition, it was for a week suspended and tonics only were given. Then inunctions of thirty grains of strong mercurial ointment were ordered to be made daily, particularly over those portions of the regions upon which the papules were most copious. With the occasional omission of a day or two this inunction treatment has been kept up until to-day (January 11, 1890), having been begun on the 27th of November. She is now cheerful and happy, and has gained eight pounds in weight. Her digestion is good, her strength satisfactory, and her assimilation and nutrition in excellent condition. The papular syphilide, over which internal medication had no control, is nearly effaced, and the enlargements of the ganglia are very much less extensive.

Such cases as these are far from uncommon, particularly in hospital practice. They cause physicians much trouble and they tend to convince many that mercury is inert, even prejudicial, in the treatment of syphilis. It is not only the cases of miliary papular syphilide, but those having any and all forms of syphilitic erruption or manifestations, which are liable to go wrong in the manner exemplified in the foregoing case. I have many times been consulted by physicians about syphilitics, and by patients under these conditions, concerning the propriety of a sojourn at the Hot Springs. As a rule, the cessation of internal mercurial medication and the adoption of the inunctions, or the hypodermic and the fumigation treatment, combined with a tonic course and general hygiene, is always followed by very gratifying results. A change of air is also of inestimable advantage.

Case VI.—A man, aged thirty-three, rather fat and flabby, enjoying what he considered good health, and deeply engrossed in exacting financial transactions, became syphilitic in July, 1887. His early erythematous rash, cephalalgia, and fugitive pains in bones, joints and fasciæ were dissipated by one third of a grain doses of the protoiodide of mercury taken three and sometimes four times daily. With this treatment iron and vegetable tonics were combined, outings in the country were ordered, and abstention as far as possible from business cares, were advised. In September, while still under treatment and when his general condition was satisfactory, he went upon

a severe spree which lasted four weeks. On emerging from this he was found to have a dense, hard, papular syphilide over the face, the shoulders, and the wrists, on the palms and soles, and ulcers in the throat and on the tongue, with a scattered papular eruption over body and thighs. Very soon he was attacked with syphilitic epididymitis of the right side, the fasciæ over the knees became very painful and thickened, and he had several nodes on the cranium. His appetite was poor, his strength at a minimum, and he was incapable of prolonged mental effort. While temporarily absent from me, a physician began at once the use of the protoiodide in one fifth of a grain doses, three times a day. He thus continued for three weeks until his return to the city. Then he was much debilitated, very pallid, and rather thinner, and saw that he was growing weaker day by day. He was no longer able to take the mercury by reason of gastro-intestinal intolerance, and in fact only the most digestible food could be taken. His physician out of the city had informed him that his only chance of cure and restoration to health was in a prolonged stay at the Hot Springs. Business cares would not admit of a long absence, so he remained in the city, running away to the country at short intervals for a few days. I treated his mouth and throat lesions locally, gave him tonics and surrounded him with every possible hygienic aid. Then I began carefully guarded and mild mercurial treatment, by inunctions chiefly, but when these, for various reasons, could not be used, I substituted hypodermic injections of the bichloride of mercury. The first noticeable changes were his returning appetite and his increased strength, then his mental calibre grew better and he lost his despondency and apathy. Slowly and gradually the lesions of the bones, fasciæ, and of the epididymis subsided, each one of them having received careful regional treatment in the form of mercurial frictions. By the beginning of winter he was free from all evidence of syphilis, except moderate general adenopathy, and after an interval of freedom from antisyphilitics, being tired of inunctions and hypodermic injections, he took the mixed treatment in goodly doses with perfect impunity and benefit.

Case VII.—A woman, thirty-one years of age, became syphilitic three years previously, and suffered from persistently relapsing eruptions of a papular and tubercular character. She followed treatment at intervals in an indifferent and spasmodic manner, occasionally under my direction, and was during this period given to dissipation and addicted to alcoholic indulgence. In the second year of her disease she began to complain of headaches, particularly at night; her nutrition became lowered and her strength impaired. During six months she took medicine, patented and otherwise, at random, and received no relief. As her sufferings continued she sought a specialist in nervous diseases, who informed her that she had congestion of the brain. He ordered bromide of sodium in full doses to relieve her pain, and directed that she should take an occasional hypodermic injection of morphine to induce sleep. In July, 1884, I had seen the patient and diagnosticated syphilitic pachymeningitis, with involvement of the bones of the cranium in scattered spots. The treatment then ordered was not carried out and the patient gradually drifted into the condition just described.

In February, 1885, the patient presented the following conditions: She was much emaciated and utterly abject, and she had no appetite, and had not partaken of solid food for several months. She suffered from continuous headache, sometimes dull in character and again of neuralgiform type. To the touch the scalp was very sore and sensitive, and pressure on a number of spots caused excruciating pain. She suffered from persistent insomnia, and when she awoke from occasional short naps felt wretched, dejected, and in pain. She could scarcely sit up, and if she attempted to walk her movements were of a shambling and shuffling character, aided by the support of attendants or by leaning on the articles of furniture. Her temperature averaged 100 F., and the pulse was frequent and thready. To add to her deplorable state, she had become habituated to morphine, which was administered frequently during the day and night to the amount of about two grains daily. Her husband thought that she should go to the Hot Springs, but he saw very plainly that she could never reach there. At the time of my first visit in February, 1885, the patient had come under the care of my accomplished friend, Dr. C. E. Lockwood, who at once asked my aid in her treatment. The patient was then taking about two drachms, daily, of iodide of sodium, together with varying quantities of bromide of potassium. We at once reduced the quantity of morphia to one-quarter of a grain in two doses daily, and gave a quinine and nux vomica mixture. Then we caused to be rubbed into the sides of the neck, the nucha, and over the painful spots on the scalp, every night, thirty grains of strong mercurial ointment. In two weeks, during which the pain had been severe and the general condition seemingly not much altered, the stomach became more tolerant, and we began the use of iodide of potassium in twenty-grain doses, three times daily. Though we strove hard to keep the quantity of morphine at the quarter of a grain standard, on some bad days we were forced to allow a little more. By very slow degrees, amid much trouble, pain, weakness, and depression, the patient gradually improved. As she bore the daily inunctions very well and there were no contraindicating symptoms, they were kept up with tolerable regularity. Toward the end of March (the patient then being under this treatment about fifty days) evident signs of marked improvement appeared. The appetite was better, and digestible solid food could be taken in sparing quantity, the mental calibre of the patient was stronger, she began to increase in weight, and her general physical condition was better than it had been for a year. Still continuing the iodide of potassium until, in the end, three hundred grains were taken daily, and the inunctions, with occasional omissions, we kept the patient upon tonics and surrounded her with every hygienic advantage. Late in April the use of morphia, which had been slowly and painlessly reduced, was abandoned, and there then was no drawback to prompt recovery. We continued the internal use of the iodide and the guarded application of the mercurial frictions until late in June, when the patient declared herself quite well, and refused all further medication and restraint. The pain in the head degenerated to soreness, and this gradually passed away.

This woman has not since suffered from any manifestation of syphilis, and can hardly be said to have followed systematic treatment since June, 1855, yet in this interval she has committed many mistakes in the too free indulgence in alcoholics.

In conclusion, I may say that with increasing care and precision in clinical examinations, and proper adaptation and modification of the dose of antisyphilitic remedies in the treatment of syphilis, and with an armamentarium rich in resources and adaptable methods, the physician will less and less frequently experience the chagrin of having his patients elope to the Hot Springs of Arkansas.

Honoring a Scotch Surgeon.—According to a notice which appears in the *Gazzetta degli Ospitali* for March 23d, the governing body of the great school of practical medicine and surgery, the "Policlinico Umberto I.," now in course of erection at Rome, invites sculptors to compete for the commission to execute two bas reliefs in Monte Alfilano stone. These bas reliefs are to adorn the principal elevation of the medical and surgical departments respectively. The subject of the former is to be Morgagni teaching his pupils the investigation of the seats and causes of disease. He must be represented as the founder of the naturalistic method, and not as a mere dissector of dead bodies. The subject of the other design is to be Sir Joseph Lister in the act of demonstrating his system of dressing wounds, which the committee calls "the greatest conquest of modern surgery."

THE PENDENT LIMB IN THE TREATMENT OF JOINT DISEASES OF THE LOWER EXTREMITY.[1]

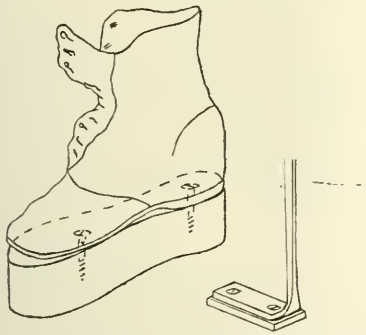
By A. B. JUDSON, M.D.,

NEW YORK.

Cases of Articular Osteitis.—The following figures, drawn from the last annual reports of two orthopædic institutions[2] illustrate an interesting fact, contain an important pathological doctrine, and enforce a practical lesson: Hip, 558; knee, 207; ankle, 64; total, 829. Shoulder, 7; elbow, 16; wrist, 3; total, 26.

It appears that in a single year eight hundred and twenty-nine cases of disease occurred in the large joints of the lower extremity, while twenty-six cases occurred in corresponding joints of the upper extremity.

That this disproportion exists is a most interesting fact, one that has been under our eyes year after year, and only lately properly recognized and emphasized. The pathological doctrine embodied is that inflammation of the bony structures of a joint is readily and spontaneously resolved when favorably situated, as in the upper extremity, where the part affected is absolutely exempt from the violence which falls on the structures of the lower limbs in standing and in locomotion. The practical lesson is the precept that in the very earliest incipiency of disease



of any of the joints of the lower extremity, the weight of the body should be taken off from the affected limb until the inflammation is resolved, though it may take months and years. By the arts of mechanical surgery the affected member should be made constantly pendent, and as little liable to strike the ground or receive the corporal weight as the arm, which swings free in locomotion, and has never known the burden of the weight of the body.

What application of mechanical orthopædic surgery can be best made for this purpose? Crutches and a high sole on the well foot are a ready solution of the problem; but consider the difficulties, one of which is found in the fact that the patient, usually a child, will lay crutches aside, and no amount of persuasion or discipline can keep them in use during the long periods in which the general health and freedom from pain obscure the serious nature of the affection.

This difficulty disappears with the use of the simple device known as the perineal or ischiatic crutch, which retains its place without the aid of the hands and under the clothing. That its use leaves the hands and arms free, and that it is inconspicuous, gives it a great advantage over a pair of crutches; but its chief superiority lies in the fact that by its use the weight of the body falls on the ischiatic tuberosity, a part of the anatomy which is accustomed to bearing the weight in the ordinary sitting posture. The construction of the axilla is but little adapted for sustaining such a weight. The loose joint which the shoulder makes with the trunk, and the presence, in just the wrong place, of the brachial and axillary vessels and nerves, make the use of a pair of crutches sometimes painful, and generally awkward.

When we consider, on the other hand, the stability of the union between the os innominatum and the vertebral column, the basic position of the os innominatum in the skeleton of the trunk, and the fact that it is designed to bear, and most of the time does bear, the weight of the greater part of the body in sitting, standing, walking, and running, it becomes clear that here, if anywhere, should be applied an artificial support for the relief of a disabled lower extremity.

The ischiatic crutch[1] described and exhibited on previous occasions, with its perineal strap applied to the tuberosity and ramus of the ischium, is simple in its construction and fully insures a pendent limb, whether the joint to be protected is the hip, knee, or ankle. It does not interfere with the ordinary activities of childhood, and it is practically easy with this instrument to obey the precept above referred to in regard to making the limb pendent from the beginning to the resolution of articular osteitis.

Two or three practical points should be attended to. The upright should be strong and light, and these qualities may be secured by a *single* perineal strap which brings the weight of the body more directly over the supporting column, which is the upright portion of the apparatus. The pelvic band should be worn at a level below the anterior iliac spine and above the trochanter, a position in which it may be held if a short perineal strap is used. At the lower end of the apparatus it will be noticed that there is a wide departure from the customary arrangement of feet and shoes. On the affected side the splint, and not the foot, reaches the ground. I have found the method of shoeing the splint, which is shown in the cut, both convenient and economical. If sole leather of the very best attainable quality is used, it lasts a long time and the expense is small. On the well side the necessity of a high sole has been the cause of vexation and expense, both of which I have partially reduced by the use of a wooden shoe, or *sabot*, constructed and fastened on with screws in the manner shown in the cut.

[1] Read before the Medical Society of the State of New York, February 4, 1890.

[2] The New York Hospital for the Ruptured and Crippled, and the New York Orthopædic Dispensary and Hospital.

Mr. Gladstone on the Fortunes made by Medical Men.—At the opening of the new Medical College building in connection with Guy's Hospital, Mr. Gladstone made an address in which he referred among other things to the late Sir William Gull, and said: "I am delighted when I hear of the creation of great fortunes in this country that are not merely commercial. It is an excellent thing that large fortunes are made in commerce, by the handling of money, by the supply of the country with material goods; but it is desirable that their power and influence should be qualified by the creation of other fortunes, such as now, almost for the first time, we find beginning to be created by medical men. I rejoice to think that the medical man, who spends his talent and strength as freely in the performance of his duty as any member of any other profession, will be able to make a competent and even large provision for his family. Another point upon which I congratulate the profession is its independence. It does not rely on endowment, but on its own exertions directed to meeting human wants. There is no great profession which has so little to say to the public purse, and which so moderately and modestly dips its hand into that purse. It is not only in the interest of the public, but of the profession itself, that it is eminently self-supporting; and, rely upon it, that that principle of self-support does much to maintain its honor and independence, and to enable it to pursue its stately march in the times that have come and in the times that are coming, to form its own convictions, to act on its own principles without fear or favor, for the general benefit of mankind."

[1] MEDICAL RECORD, July 2, 1881, June 25, 1887.

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New York, April 26, 1890.

DEATH AND THE DOCTOR.

DR. M. BIRNBAUM, of Toerpin, has made a most elaborate statistical study of the mortality statistics as they pertain to the lives of physicians. The figures he gives have a deep personal as well as scientific interest, and although they are far too extensive for us to quote in any detail, some of the facts which he presents may be given to our readers here.

The subject of the mortality rate, the expectation of life, etc., among physicians was studied in 1865 by Gussmann, but Dr. Birnbaum has collected much more complete data; these include facts regarding 2,000 deaths among German physicians from 1881 to 1891, and the facts as to age of 15,000 physicians given in Börner's Imperial Medical Calendar.

First as regards the age of the living members of the (German) medical profession, we find the following:

Age.	Number.	Per Cent.	Age.	Number.	Per Cent.
25–29	3,180	21.20	60–64	645	4.31
30–34	2,157	16.78	65–69	511	3.40
35–39	2,054	13.69	70–74	395	2.63
40–44	1,764	11.76	75–79	228	1.52
45–50	1,476	9.86	80–84	86	0.57
50–54	1,076	7.77	85–89	28	
55–59	1,026	6.84	90–93	9	

From the above it will be seen that among 15,000 physicians the number steadily falls in each half decade. The age at which there are the most doctors is 27. Half the physicians are under forty and three-fourths are under fifty years of age. The fall in numbers is slowest from 50 to 60, and fastest in the next decade from 60 to 70. The lesson is that physicians should beware of overwork after they reach the age of sixty. Relatively, fewest physicians die at the age of 43 and 44. Physicians do not reach extreme old age so often as does the average population. Among 15,000 persons of all classes above the age of 25, about 30 should pass the age of 95 and 180 the age of 90. Not a doctor among Birnbaum's 15,000 had reached the age of 94.

Taking, now, the 2,000 cases of deaths of medical men, it is found that between the ages of

25 and 35, 12.00 per cent. die
36 " 45, 13.15 " "
46 " 55, 16.50 " "
56 " 65, 20.70 " "
66 " 75, 23.85 " "

The percentage then gradually increases. The greatest number of deaths occurs, however, between the years sixty-six and seventy-five, while the most fatal half decade is between sixty-six and seventy years. Taking the yearly mortality-rate among 15,000 physicians, it is found, on an average, to be 2.24 per cent.; or, in other words, one doctor, on the average, among forty-four, dies annually.

Birnbaum's tables make the expectation of life of the physician as follows.

At the age of 25	62.11
" " " 35	63.09
" " " 45	64.83
" " " 55	67.75
" " " 65	72.68

This makes the expectation of life for the physician a little below that of the average population, but not very much

As to the average duration of life of physicians, Birnbaum quotes Neufville's tables as follows:

Clergymen	65.7	Merchants	56.71
Teachers, Gardeners, Butchers	56.8	Lawyers	54.2
		Physicians	52.2

Among 238 cases of deaths among medical men he finds the following causes:

Infectious diseases	16
Chronic pulmonary diseases	22
Acute pulmonary diseases	21
Chronic heart disease	30
Apoplexies	40
Brain and spinal cord diseases	20
Cancer	19
Liver disease	7
Abdominal disease	5
Bright's disease	8
Diabetes mellitus	3
Surgical diseases and injuries	5
Deaths from violence	11
Old age	9
Other diseases	22

In looking over the above no one can fail to be struck with the fact that an unusually lare number of deaths are such as come from exposure and severe mental and physical labor, while comparatively few deaths are of the kind brought on by intemperate living in the sense in which that word is ordinarily employed.

The doctors are plainly a hard-worked and not very long-lived race.

WHY PHYSICIANS SHOULD NOT ADVERTISE.

A RECENT issue of the *Chicago Tribune* containing a marked editorial with the above heading has been sent about to the medical journals. The article, according to the *Northwestern Lancet*, is inspired by the action of the Alumni Association of the College of Physicians and Surgeons of Chicago, in dropping from its roll of members, a Dr. Brinkerhoff, who insisted upon advertising in the daily papers that he was possessed of special skill in the treatment of a certain class of diseases. The *Tribune* decides that advertising by physicians is proper and indeed desirable, in order to let the public know where the highest skill is to be found. It inveighs against the "old and absurd custom" of a medical society's not allowing its members to advertise, and a reporter in another part of the paper refers contemptuously to "old fogy ideas" and the "musty and silly code of ethics."

Our contemporary the *Northwestern Lancet* presents most vigorously and logically the reasons why physicians should not advertise themselves as possessing special skill. These are that the public cannot judge of the

physician's skill or honesty, as they can judge of the quality of material goods, while, at the same time the patient often has at stake his health and life when he sets out to secure medical aid. If this is not as advertised, he cannot return the goods and get the money refunded, but he must suffer the consequences of unskilfulness or dishonesty. Beyond all this, it must be remembered that medical services are personal services, and that the doctor's skill is in a sense a part of his own individuality. No self-respecting man could possibly publicly advertise that he was the greatest and most successful specialist in a certain class of diseases, any more than he could announce that he had the biggest brain or the noblest moral nature of any man in the State. We do not find that editors, who sometimes think that doctors ought to advertise, ever themselves adopt this practice, and yet we have known of editors who needed papers to edit or journalistic work to do.

The limits of medical advertising before the public are announcements of cards and addresses, while some think that the additional announcement of a special limitation of practice is legitimate.

STATE MEDICAL EXAMINING BOARD.

THERE seems a very good prospect that the bill to establish triple examining boards, regular, homœopathic, and eclectic, will become a law. If so the law will be enacted against the wishes and protest of the vast majority of the physicians of this State. The creation of three distinct examining boards is a clumsy, unnecessary, expensive, and pernicious contrivance. If each board does its work faithfully the examinations will be practically the same in anatomy, physiology, chemistry, surgery, obstetrics, and pathology. The only differences will be in therapeutics, and one board could arrange to vary its examinations here. Furthermore, there are the best of reasons for seriously fearing that one or more of the boards will not make its examinations properly stringent, and that the standard will be allowed to fall very low. The Eclectic Board, for example, will not feel like putting on the official record the fact that they "pluck" a larger per cent. than the regular board. Yet the standing of eclectic medical colleges and their means of teaching are decidedly inferior to those of other schools.

We sincerely hope that if the legislature is so unwise as to pass the triple-board bill, the Governor will veto it.

News of the Week.

Preliminary Programme of the Sections of the International Congress.—The following is the preliminary programme of the various sections: I. *Anatomy:* 1. The Convolutions of the Brain. 2. The Present State of the Doctrine of Nucleus Segmentation and Cell Division, with special reference to the Directing Bodies, the Spheres of Attraction, and the Accessory Nuclei. 3. Histogeny and Connection of the Nerve Elements. Sectional Secretary: Professor Hertwig, 34 Maassenstrasse, Berlin, W. IV. *Pharmacology:* Sectional Secretary: Dr. Oscar Liebreich, 34A Dorotheenstrasse, Berlin, N. W. VI. *Diseases of Children:* 1. Intubation of Larynx, J. O'Dwyer, New York. Sectional Secretary: Professor Henoch, 8 Bellevuestrasse, Berlin, W. VIII. *Obstetrics and Gynæcology:* 1. Antiseptics in Midwifery, introduced by Dr. Galabin, London. Professors Stadfeldt, Slavijanski, and Fritch will take part in the discussion. 2. Artificial Premature Labor, introduced by Dr. Thomas Parvin, of Philadelphia. 3. Vaginal Extirpation of the Uterus, introduced by Dr. Williams, of London. 4. Electrolysis of Myoma, introduced by Apostoli, of Paris. Sectional Secretary: Dr. A. Martin, 2 Moltkestrasse, Berlin, N.W. IX. *Neurology and Psychiatry:* 1. Surgery of the Central Nervous System, by Professor Victor Horsley, M.D., London. 2. The Traumatic Neuroses, by Professor Schultze, M.D., Bonn. 3. The Pathological Anatomy of Dementia Paralytica, by Professor Mendels, M.D., Berlin. Sectional Secretary: Dr. H. Laehr, Zehlendorf, Berlin. X. *Ophthalmology:* 1. Sympathetic Ophthalmia. 2. Trachoma. 3. The Influence of the Electric Light upon the Eye. Sectional Secretary: Professor Dr. Schweigger, 6 Roonstrasse, Berlin, N. W. XI. *Otology:* 1. Relations of the Micro-organisms to Affections of the Middle Ear. 2. The Cholesteatoma of the Ear. 3. After-treatment of the Processus Mastoideus when pierced with the Chisel. 4. Pathological Anatomy of the Labyrinth. 5. The Condition of the Ear in Tabes Dorsalis. 6. Hearing Capacity and its Uniform Nomenclature. Sectional Secretary: Professor Lucae, 9 Lützowplatz, Berlin, W. XII. *Laryngology and Rhinology:* 1. Laryngology since the last International Congress in 1887, Dr. Fränkel, Berlin. 2. Diseases of the Accessory Nasal Cavities, Dr. M'Bride, Edinburgh. 3. Cancer of the Larynx, Henry T. Butlin, London. 4. Acute Infectious Inflammations, F. Massei, Naples. Sectional Secretary: Professor B. Fränkel, 12 Neustadtische Kirchstrasse, Berlin, W. XIII. *Dermatology and Syphilography:* 1. Pathology of Pigmentations and Decolorations of the Skin. 2. Chronic Gonorrhœa. 3. The Treatment of Syphilis. 4. Inflammatory Skin Diseases. 5. The Nature of Exanthemata due to Drugs. 6. Lupus Erythematosus: its Nature and Treatment. Sectional Secretary: Dr. Lassar, 19 Karlstrasse, Berlin, N. W. XIV. *Teeth:* The work in the forenoon will consist of practical demonstrations in the Dental Institute, and the afternoons to the discussion of papers. 1. Narcosis with Bromide of Ethyl. 2. Pyorrhœa Alveolaris. 3. Micro-organisms and Decay of the Teeth. 4. Crown and Bridge Work. 5. Bonwill Method of Articulation. Sectional Secretary: Professor Busch, 6 Alexander-Ufer, Berlin, N. W. XVI. *Medical Geography and Climatology:* 1. On the Influence of Tropical Climate on Immigrants. 2. On the Endemic and Epidemic Diffusion of Yellow Fever. 3. Beri-beri regarded from an Etiological and Therapeutic Point of View. 4. Leprosy, with special regard to its Spread by means of Hereditary Transmission and Contagion. 5. On the Geographical Extension of Malarial Diseases. Sectional Secretary: Professor A. Hirsch, 113 Potsdamerstrasse, Berlin, W. XVII. *State Medicine:* 1. The Doctrine of the Gonococcus. 2. On Virile Impotence. 3. The Lung test for Live Birth. 4. Does Sepsis originate after Spontaneous Abortion? 5. Does Moral Insanity exist as an Independent Disease or as a Symptom of other Forms of Mental Alienation? 8. The Proofs of Vitality. 9. The Auto-infection of Puerperal Women. 10. The Ptomaines in Forensic Medicine. 11.

Forensic Experiences of Rigidity in Corpses. Sectional Secretary: Professor Liman, 46A Königgrätzerstrasse, Berlin, N. W. XVIII. *Military Hygiene:* 1. The Antiseptic Treatment of Wounds resulting from the Accidents of Warfare, Generalarzt von Bergmann. 2. Movable Hospitals in Peace and War. 3. Hospital Ships in Naval Warfare. 4. The Organization of the Prophylaxis of Epidemic in the Armies in the Field and at Home. 5. The Sick Lists and Sanitary Reports, John S. Billings, U. S. Army. 6. The Trepanning of the Skull. 7. The Mortality in the Italian Army (1881–88), Dr. J. Sormani. 8. Movable Hospital Barrack for Tropical Countries, Dr. Daubler. Sectional Secretary: Oberstabsarzt Dr. Krocker, 65 Potsdamerstrasse, Berlin, W.

Removal of Large Portion of the Stomach (for Carcinoma) with Gastro-enterostomy.—The patient of Dr. W. T. Bull referred to in RECORD of April 19th has made satisfactory progress, and may now (twelfth day) be considered out of danger. This is the first successful American operation for cancer of stomach, and is the third instance in which, after resection of a large part of the stomach, a gastro-enterostomy has been performed. Billroth reports two cases, the first in 1885, which recovered, and the second in 1887, which died.

An Opportunity to Visit Mammoth Cave.—The following offer of stop-over privileges is made by the Louisville & Nashville Railroad to delegates from the North attending the meeting of the American Medical Association: "All who may attend the meeting can stop over at Mammoth Cave Junction going to Nashville, by notifying our conductor between Louisville and the Junction of their intention to do this; he will then permit them to retain their tickets for transportation on another train from the Junction to Nashville. Before leaving Mammoth Cave, the tickets should be presented to our agent at the Mammoth Cave Hotel, who will endorse them, making them good for passage to Nashville even should the limit have expired. If it is not convenient for all to visit the Cave upon the south-bound trip, we can arrange for such visit when returning from Nashville, but this will not be arranged until the Secretary of the Association notifies the Company that some in attendance wish to make this side trip after leaving Nashville."

Death of Dr. Eisler.—Dr. Morris Eisler, for nearly thirty-seven years a prominent German practitioner in New York City, died last Friday morning, after an illness of several months, at his residence, 176 Second Avenue. He was born in Galgócz, Hungary, in 1818, and when a student of medicine at Buda-Pesth in 1848, he took a prominent part in the revolution. He joined the forces as army surgeon, taking active part in the campaign under General Bem. After the overthrow of the revolution he fled to Leipsic, and subsequently to Paris, in which city he finished his medical studies. Going to London he met Louis Kossuth, at whose advice he came to this country in 1853, and had since been engaged in the practice of his profession in this city. His body was cremated on Sunday morning at the Fresh Pond Crematory. The deceased was a member of The County Medical Society.

The California State Medical Society held its annual meeting in Los Angeles on Tuesday, Wednesday, Thursday, and Friday, April 15th, 16th, 17th, and 18th.

Confederate Army Surgeons.—Dr. Joseph Jones, Surgeon General of the United Confederate Veterans, has addressed a circular to the survivors of the medical corps of the Confederate army, requesting them to meet with the United Confederate Veterans in Chattanooga, Tenn., on July 2d. He asks that they assist in furnishing a history of the medical corps of the Southern army by contributing data on the following subjects: First—Name, age, nativity, date of commission in the Confederate States army, nature and length of service of each and every member of the medical corps of the Confederate States army. Second—Obituary notices and records of all deceased members of the medical corps of the Confederate army. Third—Titles and copies of all field and hospital reports of the medical corps of the Confederate army. Fourth—Titles and copies of all published and unpublished reports relating to military surgery and diseases of armies, camps, hospitals, and prisons. The object proposed to be accomplished by the Surgeon-General of the United Confederate Veterans is the collection, classification, observation, and final publication of all the documents and facts bearing upon the history and labors of the medical corps of the Confederate States army during the Civil War of 1861–65. It is believed that invaluable documents are scattered over the whole land, in the hands of the survivors of the Civil War of 1861–65, which will form material for correct delineation of the medical history of the corps.

The Quarantine against Leprosy.—At a recent meeting of the Vermont State Board of Health, a communication was received from Surgeon-General Hamilton, of the Marine Hospital Service, suggesting that the board, in accordance with the provisions of the law passed by Congress in relation to quarantine against leprosy, appoint an inspector on the border. The Board accepted the suggestion, and Dr. Hamilton, of Richford, was appointed inspector for Vermont.

A Half Century of Dinners.—The Lycoming County (Pa.) Medical Society enjoyed its fifty-first annual banquet in Williamsport, on April 10th.

Charges of Cruelty against Hospital Managers.—A dissatisfied patient and his friends have brought charges against the City Hospital of St. Louis, alleging that the orderlies and nurses are often very cruel in their treatment of the patients, that the food is of poor quality and insufficient in amount, and that the sick are made to do all the work of the institution. The superintendent denies the charges, which were made probably by some self-esteemed individual who did not receive all the attention which he thought his importance in the social scale demanded.

The Prevalence of Rabies.—The *Boston Journal of Nervous and Mental Diseases* states that eight cases of canine rabies have recently been noted in Lowell, Mass., and one case of hydrophobia, in which the man died forty-two days after being bitten, is reported.

A case of hydrophobia is reported in Watertown, Mass.

A case of canine rabies was recently observed in Yonkers, N. Y.

The Republican Valley Medical Society held its annual meeting in McCook, Neb., on March 25th.

Successor of the Late Professor Westphal.—Professor Grashey, of Munich, has been appointed to succeed the late Professor Westphal in the Chair of Mental Therapeutics in Berlin.

The Ladies' Health Association of this city proposes to have a mass meeting April 30th, in order to protest against the condition of the streets. The ladies of this association have accomplished some notable reforms in the past two years. Among these is that compelling all stables in the city to bale the manure and refuse in place of loading it in open wagons and carts, frequently across the sidewalks, and hauling it through the streets. The ordinance takes effect May 15th. In the matter of sewers, school hygiene, slaughter-houses, and gas-houses the association has accomplished much, and hopes in another year to have in operation public crematories for consuming refuse.

Leprosy in New Caledonia.—Paris papers state on good authority that leprosy is spreading in New-Caledonia in a most alarming manner. Of 40,000 Kanakas no fewer than 5,000 are described as suffering from the terrible disease. Till quite recently the public authorities had taken no measures to prevent it from spreading; but now two subordinate colonies have been created.

A Bill to Incorporate a Missionary Medical College in New York City has passed the State Senate, and seems likely to get through the Assembly. The bill provides for the creation of an institution which shall grant medical diplomas on condition that the persons using them practise out of this country. There is no evidence that the proposed medical institution can and will give thorough medical instruction, and it looks very much like a diploma-mill floating a gospel banner. If medicine is to help the missionary cause it can only be through physicians well qualified in their calling, and the proposal to establish a new medical college which shall take clergymen and make cheap doctors of them seems most unwise in every way. We trust that the bill will be killed. We have already ample opportunities for medical instruction in this city.

The Game for Medical Students.—A writer in the *Medical Press* who is both a doctor and a foot-ball player says: The game of foot-ball is *par excellence* the game of medical students, as is evinced by the numbers of these that obtain places on good teams in all medical teaching centres, the reason that it is so to my mind is two-fold, (1) it is played in the winter time, when the medical schools do most work, and (2) in foot-ball they get the maximum amount of exercise with the minimum expenditure of time—healthy exercise which is absolutely necessary to enable them to attain to the "mens sana in corpore sano."

Physicians' Books of Account are "Privileged."—A local court has decided that a debtor who is a physician cannot be compelled to deliver up his books of account to his receiver, who has been appointed in proceedings supplemental to execution. By the order appointing the receiver the latter acquired title to the accounts but not to the books as well. "In the complicated affairs and relations of life the counsel and assistance of clergymen, physicians, and lawyers often become necessary, and to obtain them men and women are frequently forced to make disclosures which their welfare and sometimes their lives make it necessary to be kept secret. Hence, for the benefit and protection of the confessor, patient, or client, the law places the seal of secrecy upon all communications made to those holding confidential relations, and the courts are prohibited from compelling a disclosure of such secrets. The safety of society demands the enforcement of this rule." For this reason it is held that the physician's account books, containing information which would be privileged as concerns his patients, are not subject to discovery and inspection in an action between the physician and a third person.—*N. Y. Medical Journal.*

Pneumonia as it Prevailed during Epidemic Influenza.—Statistices of pneumonia as it prevailed during the recent epidemic influenza in Philadelphia, Boston, and New York were given by Drs. Pepper, Shattuck, and Janeway, in papers read before the New York Academy of Medicine, April 16th. Those from Philadelphia were based on reports from two hundred and seventy-two physicians in private practice; those from Boston and New York on the records of public hospitals, and of the Bureau of Vital Statistics. There was not that predominance of the catarrhal over the croupous form which some had supposed to exist; the number of cases of both kinds was about three times as great as for the same period in preceding years; the mortality rate was not greater; the cerebral symptoms were unusually severe; marked mental depression was common; high initial temperature was the rule; the pleurisy was usually plastic; in Philadelphia pericarditis was frequent, and jaundice was present in a considerable proportion of cases; there was apt to be gastric disturbance and diarrhœa; in New York children with influenza were affected with pneumonia less frequently than adults; the lesions were the ordinary ones of catarrhal and croupous pneumonia. Few bacteriological studies had been made, and these showed the pneumococcus of Friedlander while the streptococcus was absent.

Public Lectures on Nursing and Hygiene.—The Montgomery County (Pa.) Medical Society has instituted a course of lectures on nursing and hygiene for the laity. The fifth lecture of the course, on "surgical dressings and bandaging," was delivered in Norristown on April 9th, by Dr. Alice Bennett, President of the Society.

St. Louis has still Another College.—The medical faculty quarrel in St. Louis has resulted in the establishment of a new college, to be called the Marion-Sims Medical College. The projectors of the new institution are to build at once, and propose to be ready for students in the fall.

Hydrophobia in Boston.—Dr. Harold C. Ernst, recently read a paper before the Suffolk District Medical Society on the subject of rabies, in which he affirmed that the disease was epidemic in Boston and its vicinity.

Guarding against Contagion in Cattle.—Dr. Armstrong, United States Inspector of Live Stock, is on a tour of inspection, taking in the stock yards of various cities in the West. He is under instructions to see that separate pens are provided for cattle that have been subjected to danger of disease, and that for cars in which they are carried to the yards a system of immediate and thorough cleansing is adopted.

Norway, which has a population of 2,000,000 souls, is divided into 152 medical districts, with 581 doctors and 89 druggists' shops.

Liabilities for Injurious Patent Medicines.—The Supreme Court of Georgia has just rendered a decision, says the *New York Herald*, which is likely to attract widespread attention, and to have a salutary effect on the preparation of patent medicines. It holds that the proprietor of such a preparation is liable to damages for injury done to any person who takes the medicine according to directions. This liability does not fall upon the druggist who sells the medicine, but upon the proprietor, even when the consumer buys not from him directly, but from the druggist.

An Investigation of the Use of Electricity in Uterine Fibromata.—The Philadelphia County Medical Society has appointed a committee, consisting of Drs. Parvin, Hirst, Montgomery, Massey, and Baldy, to conduct a series of observations relative to the effect of electricity in fibroid tumors of the uterus.

Adirondack Sanitarium.—The results of the "cottage plan" of the treatment of phthisis pursued at the Adirondack Sanitarium, at Saranac Lake, New York, as shown in their last report, are as follows: Of the 96 patients under treatment during the past nine months, 1 died, 11 who continued to lose ground were returned to their homes, 17 have somewhat improved, a similar number have been restored to lives of usefulness, and 8 are thoroughly cured. The patients now under treatment number 42. The financial condition of the institution continues very satisfactory.

An American Merchant's Bequest.—An old New York merchant, Mr. Thomas Hope, has bequeathed to his native town of Langholm, Scotland, the sum of $400,000, to found a hospital and dispensary. Langholm has a population of about four thousand.

The Medical Editors' Association will meet in annual session on the evening of May 19th, in the lecture room of the dental department of Vanderbilt University, Nashville.

Chloroform v. Ether in Paris.—Owing to a recent chloroform accident in Paris, the Director of Public Assistance caused a report to be made on the surgical operations which have been performed during the last ten years in the hospitals of Paris. As a result of this report, it appears that the accidents due to the employment of chloroform have been in the proportion of 1 in 1,236; those due to ether have been only 1 in 12,581 cases.

A Doctors' Home.—The Alabama State Medical Society has under consideration a project to build a doctors' home, and the county associations of Jefferson, Montgomery, and Mobile have given it their approval. The plan looks to no great immediate results, but has an eye to the future. Under it each member of the county societies is requested to contribute annually the sum of one dollar, and when a sufficient fund has been raised, a building will be provided and arrangements made for receiving inmates.

An Old Practitioner.—Dr. James Kitchen, of Philadelphia, now in his ninetieth year, has been sixty-eight years in the practice of his profession.

An Attempt to Remedy the Dispensary Abuse.—At a recent meeting of the Executive Committee of the Eye, Ear, Nose, and Throat Free Hospital, of New Orleans, the following preamble and resolution were adopted unanimously: "*Whereas*, It is our imperative duty to husband our resources, in order the more effectually to relieve the truly poor and needy; and whereas our experience makes it evident that persons fully able to pay for medical services have, with the evident intention of avoiding the expense of the employment of a physician, applied to the free hospital for and obtained gratuitous treatment; and whereas, by encouraging such practice, we are not only violating the trust confided to us, but also doing a great injustice to the medical profession, a class of meritorious citizens noted for their liberality and charity; therefore,

"*Resolved*, That a committee of two be appointed, with instructions to confer with similar committees from other charitable institutions, and also from the Parish Medical Association, in order to study this question, and devise such means as in their judgment can be adopted to remedy or minimize the abuse."

Colles's Law.—One of the most important of all pathological facts is the transmission of syphilis from father to child without infection of the mother. Many men aware of this fact, and already victims of syphilis, hesitate to marry, almost entirely on account of their future offspring rather than their future wives. The extinction of the syphilitic virus in well-fed patients is one reason why the disease is not often seen in its hereditary form in children among the prosperous classes of society, as Paget has had occasion to observe. The immunity of the mother is a question which deserves the closest investigation. According to a well-known law, first laid down by Colles and afterward confirmed by Baumès, a mother who suckles her syphilitic child never thereby acquires syphilis. Diday, Jonathan Hutchinson, and others have established this law; and the exceptions are so few as almost to prove the rule, if not themselves "suspect." Dr. L. Merz has published notes of two exceptions in the *Archives de Toxicologie* for January. — *British Medical Journal.*

Cooperstown Hospital.—An unknown benefactor has sent $10,000, with which to help erect a hospital at Cooperstown. The donor suggests as a name "God's Providence Hospital." This we submit might be appropriate but it would be very awkward.

Medicine in May.—In the rainy month of April, eleven State medical societies held their annual meetings. These were mostly the societies of the Southern States. In the coming merry month of May medical talent aggregates in more northerly sections, and twelve societies will meet as follows: Illinois, Chicago, May 6th; Kansas, Salina, May 13th; Louisiana, Baton Rouge, May 13th; Nebraska, Beatrice, May 13th; Arkansas, Little Rock, May 14th; Indiana, Indianapolis, May 14th; Kentucky, Henderson, May 14th; Washington, Spokane Falls, May 14th; Michigan, Grand Rapids, May 20th; Missouri, Excelsior Springs, May 20th; North Carolina, Oxford, May 27th; Connecticut, New Haven, May 28th. Besides these, the Association of American Physicians, and the Association of American Surgeons meet in Washington, D. C., May 13th, 14th, and 15th.

The Alabama Dental Association held its annual meeting in Birmingham on April 8th.

Changing the Name of a Hospital.—Mr. Charles Parsons, of St. Louis, has offered $20,000 to the board of directors of the Augusta Free Hospital of that city, on condition that the name be changed to The Martha Parsons Hospital for Children, in memory of his deceased wife.

The Northwestern Wisconsin Medical Association, at its quarterly meeting in Oshkosh, on April 8th, elected the following named officers: *President*, Dr. Steele, Oshkosh; *Vice-President*, Dr. Pelton, Waupaca; *Secretary and Treasurer*, Dr. Simonson, Pittsville; *Censor*, Dr. Oviatt, Clintonville.

Death of St. Louis' Leper.—James Brennan, a leper, who made considerable stir in St Louis some time ago, is dead. He was seen by several physicians, and his disease was diagnosed as leprosy. He was quarantined by the Board of Health, but escaped about a year ago, and it was several days before he was secured by the health officers and sent back to Quarantine Hospital. It was after this his sister, aided by several physicians, instituted proceedings to secure his liberty. He was brought up to the City Hall and examined by a number of experts, and the consensus of opinion sustained the Health Department. He was then brought into the Circuit Court on a writ of habeas corpus, but this plan also proved a failure, and since then he has remained in the hospital, thirteen miles below the city.

A Physician Sues a County.—Dr. M. Rockman, coroner of Lewis and Clarke County, Mont., has brought suit against the county for his fees for inquests made during the past three months, and which the authorities refused to pay.

Color Blindness among Sailing Captains.—Dr. B. Joy Jeffries lectured before the Massachusetts Yacht Club, in Boston, on April 11th, on the report of the International Maritime Conference on the danger and control of defective vision and color blindness. The conference, representing twenty-six nations, had agreed that the dangers from color blindness had not been overstated, and that there was need of standard requirements for detecting it. The conference wisely recommended no change in the form and color of lights used at sea, but had decided that those in use at present must be recognized, and it strongly urged that the officers of all vessels, instead of only steamers as at present, be subject to inspection by a competent board established by act of Congress.

Resection of the Lung.—This operation was performed before the members of the German Surgical Congress in Berlin, on April 11th, for the removal of a tuberculous deposit. At last accounts the patient was still alive.

A Reference Medical Library in Chicago.—The medical profession of Chicago has at last the prospect of access to an excellent reference medical library. The trustees of the Newberry library have decided to include this as a department of the library, and to that end have solicited the aid of several prominent physicians in the selection of books and periodicals. The Chicago Medical Society has wisely decided to transfer its own nucleus of a library to the Newberry trustees.

The Florida Medical Association held its annual meeting in Ocala on April 8th, 9th, and 10th.

Chicago Policlinic.—At the recent special course in abdominal and pelvic surgery at the Chicago Policlinic, one hundred and twenty-seven practitioners from the Northwest were in attendance. At their unanimous request, a similar course will be presented next winter. Dr. N. Senn and Dr. Chr. Fenger have been elected regular professors of surgery in the Chicago Policlinic.

Alumni of Mount Sinai Hospital, New York.—All physicians who have served a term on the staff of the Mount Sinai Hospital, New York, and who have not been reached by mail, will please send their names and addresses to Associate Alumni, Mount Sinai Hospital, Sixty-sixth Street and Lexington Avenue, New York City.

A Medical Man for President of Board of Health.—At a stated meeting of the New York County Medical Association, held April 21, 1890, the following resolution was unanimously adopted:

Resolved, That the New York County Medical Association earnestly and respectfully urge the members of the Legislature, now in session, to give their influence and votes for the passage of the Bill now before the House, having for its object the repeal of the law by which a physician is made ineligible for the position of President of the Board of Health of New York City.

Closing a Hospital for lack of Funds.—There is danger that the City Hospital in Oswego, N. Y., will be closed by reason of the failure of the City Council to come to its support. The annual expense is only about $4,500, and the council is asked to contribute $1,000 of this, the balance being made up from the proceeds of fairs and by private contributions.

Contagion by Kissing a Corpse.—A woman in Ohio recently lost her child by diphtheria, and forced her other children to kiss the dead body. The latter also sickened and died.

"**La Rivista Medica**" is the name of a new bi-monthly medical journal published in Malta. Drs. Borg and Zammit are the editors of the journal.

An International Atlas of Rare Skin Diseases.—Unna, of Hamburg, writes in his *Monatshefte für Praktische Dermatologie* that he intends to publish, with the assistance of Duhring, of Philadelphia, Leloir, of Lille, and Malcolm Morris, of London, an atlas of skin diseases, the peculiarity of which will consist in the fact that only very rare and unusual diseases will be pictured and described. It is to be published in yearly parts in English, French, and German. Why not in Latin only?

Hypnal is the name of a new compound introduced into medicine by M. Bonnet, of Paris. It is made by uniting antipyrin and chloral, and its chemical name is said to be trichloracetyldimethylphenyl. It is given internally in doses of fifteen grains and is said to be not unpleasant to take, and to have some hypnotic power.

Dr. Destot, of France, has succeeded in inoculating himself with psoriasis by the insertion of scales into the skin of the shoulder. Dr. Destot's feeling of scientific triumph ought to be tempered with some sensations of dismay. We hope the doctor will crown his achievement by curing his case.

Trichinosis.—Thirty cases of trichinosis have been reported to the health authorities in Aurora, Ill. Some of the cases are stated to have come from eating imported sausages, while others have been traced to the native hog.

Dr. Hiram B. Tibbetts died in Concord, N. H., on April 8th, at the age of seventy-eight years. He was a graduate of the Harvard Medical School, and practised medicine years ago in Natchez, Miss. He afterward engaged in cotton planting in Louisiana. At the close of the war he returned to Concord, where he has since resided.

The Botkin Hospital Gazette is the English name of a new weekly medical journal to be published in St. Petersburg. The editor of the new journal is Dr. N. P. Wassilieff.

Is it Virginia's First Woman Physician?—The State Board of Medical Examiners, whose session in Richmond has just closed, had for the first time among the applicants for the privilege of practising medicine in Virginia, so says the *Baltimore American*, a woman, Miss C. L. Haynes, who was recently elected assistant physician in the Western Lunatic Asylum. Miss Haynes passed a successful examination, and was awarded a diploma to practise her profession in the State.

A Registration Bill in Massachusetts.—The legislature of Massachusetts has under consideration a bill providing for the registration of practising physicians. "A record shall be kept of all persons registered and certificates issued, and any person not registered who shall use or advertise or in any way permit the title of doctor or doctor of medicine to be used in connection with his name, or shall do any act which may operate to lead any person to believe or infer that he or she is entitled to the use of such title, shall be punished by a fine not exceeding $500, or imprisonment not exceeding two years, or both fine and imprisonment." The passage of the act is opposed by some women representing the "constitutional liberty league," though it is hard to say on what grounds.

Dr. Rufus McCarthy, surgeon on the United States man-of-war Yantic, died of pneumonia aboard that ship at Key West on Saturday afternoon, after a four days' illness. He was twenty-eight years old and born in Detroit.

Dr. George Thurber, one of the best known botanists in the country, died recently at his home in Passaic, N. J.

A Singular Complaint against Two Surgeons.—The Minnesota State Medical Board was called together recently to consider a singular case. A resident of St. Paul preferred charges against two surgeons of that city. He asserts that he was recently having a leg operated on, in the course of which he was given chloroform. When recovering from the effects of the anæsthetic he unconsciously thrashed his arms about and struck one of the doctors in the face. The physician lost his temper, and savagely struck the semi-conscious man, knocking out an eye. It is claimed in defence that the injury was purely accidental, and occurred while the surgeons were holding the man down to prevent him from injuring himself. This is the first time that the Board ever sat as a Medical Court.

Neglect to Report Contagious Diseases.—The Commissioner of Health of Chicago complains that the physicians in that city do not comply with the law in regard to reporting contagious cases which come under their notice in the course of their professional duties. This negligence, he says, causes serious danger to the public health and impedes the working of the department. In future he threatens to prosecute every offender under this head, and have the maximum penalty of $200 enforced.

A Doctors' Building.—A stock company is said to have been formed in Pittsburg, the members of which are all physicians, for the purpose of erecting a ten-story building on Penn avenue, to be occupied by physicians only, who will have their offices there. There will be two elevators in the building, so that patients will have no trouble in reaching the upper floors. The ground floor will be rented out for storerooms.

Educating Colored Physicians.—The first annual session of the medical department of the New Orleans University closed on April 4th. The department has been established for the education of colored physicians.

Tulane University.—The Commencement exercises of the medical department of Tulane University, New Orleans, were held in that city on April 1st. There were ninety-three graduates.

A Woman's Will.—A will was recently admitted to probate in Philadelphia which was written in lead pencil on the back of a physician's prescription. The testatrix was a Mrs. Beresford.

A Missing Diploma.—Dr. Alfred V. Forgey, of this city, writes that he has lost his diploma, issued by the Medical College of Ohio in 1873, and two pharmaceutical certificates. He believes that they were stolen, and thinks that some one may attempt to practise on the strength of them.

The Kent County (Mich.) Medical and Surgical Society was recently organized in Grand Rapids, by the physicians residing in that city. The Society has obtained a charter from the State, and a meeting will soon be held for the election of officers.

The Trials of St. Louis Physicians.—There must be something wrong with St. Louis air, for the medical profession in that city is by no means a harmonious body. Seven of the faculty of the St. Louis College of Physicians and Surgeons have recently resigned, the resignations, it is said, having been brought about by an amendment to the constitution, of recent adoption, which placed the chairs of the retiring professors entirely at the disposal of the Dean of the College and the Board of Trustees. Only four members of the faculty have a vote in the Board of Trustees, and these four, with the concurrence of the remainder of the Board of Trustees, who are all laymen, can depose any of the other professors of the institution at pleasure. The laymen have been in the habit of letting the physicians in the Board of Trustees have their own way in the entire management of the institution. Hence, these four gentlemen could at pleasure depose any of their fellow-professors. That is what the fellow-professors objected to, and that is why, so the report runs, they resigned. There are rumors, also, of disagreement among other medical associations in that city.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, March 7, 1890.

(Continued from page 454.)

FRANCIS P. KINNICUTT, M.D., PRESIDENT, IN THE CHAIR.

Is Excision of the Appendix Vermiformis Justifiable in Cases of Recurring Appendicitis?—DR. W. T. BULL made the following remarks in introducing the subject for discussion:

It is not my purpose to suggest for discussion the general treatment of appendicitis and its accompanying accidents, peritonitis and perityphlitis. We have had this subject before us frequently, and I believe are in favor of early operative treatment when symptoms of urgency are present.

In the absence of urgent symptoms, or in the presence of an inflammation limited strictly to the appendix (as shown by clinical evidence), it has generally been held that medical treatment was all that was called for. But I do wish to acquire information from your experience and reading, that may help decide the question of the propriety of surgical interference. When the appendicitis recurs, should the organ at fault be removed?

The fact that recurrence is frequent is well known, but we lack exact data. The largest percentage of such observations has been noted by Kraft[1] (of Lausanne), who found that twenty-six of one hundred and six patients with perityphlitis had had previous attacks not accompanied with suppuration. Fitz and Pepper have both stated that recurrence is frequent, and Lee and Murphy (whose paper I have seen only in abstract) state that their observations concide with Kraft's. All of us have met with patients who have had several attacks at varying intervals. In the last one I encountered the interval had been twenty years. It may, therefore, be considered proven that one attack of appendicitis may lead to another, and even to frequent repetitions, and that some of these attacks may lead to suppuration, or perforation, and the accidents above mentioned. Assuming that recurrence is the probable outcome of one attack, we lack information as to the cause of the recurrence. If merely uncomplicated appendicitis, it may recover as before.

If the secondary inflammation occurs, it may recover spontaneously, or by proper surgical management, in the majority of cases.

In the application of any surgical operation to the cure of disease, we should consider the danger to life from the condition which it seeks to relieve, and contrast it with the risk to life from the operation. If the disease be threatening life, a dangerous operation is proper. If it merely interfere with the comfort or the safety of the patient, only an operation of moderate risk can be recommended. A patient who has one attack of appendicitis, is, in my opinion, not a proper subject for operative treatment. Recovery is probable with simpler and safer methods of treatment. He has as much right to expect immunity from another attack as a recurrence, and in the latter event an equal chance of favorable or unfavorable result. The danger to life is trifling, and needs no protection from such an operation as removal of the appendix. But the subject of frequent recurrences, with the constant suspense and dread in the intervals of another attack, with the frequent interruptions to business, or labor, or even pleasure, may properly undergo surgical treatment which is not attended with great risk. While I should not, in the light of present experience, encourage operations for one attack of appendicitis without urgent symptoms, I am unqualifiedly in favor of them when the attacks frequently recur.

[1] Lee & Murphy, Medical News, December 28, 1889.

Is the operation easy and safe? And does our experience at the present time justify such statements as the following, which have been advanced?

Morton[1] speaks of it as "Comparatively trivial operation at a time and under conditions when prompt and permanent relief and recovery can almost invariably be secured." And Senn[2] writes: "Excision of the appendix in cases of simple uncomplicated appendicitis is one of the easiest and safest of all intra-abdominal operations."

On the other hand, in one of the cases operated on by Mr. Noyes,[3] the appendix and cæcum were buried in adhesions, and the dissection was complicated and tedious.

In a case under the care of Dr. J. C. Lester, of Brooklyn, operated on by myself last winter, the attacks had recurred with considerable regularity at intervals of three weeks for four months. They lasted only two or three days and were always accompanied with fever. The patient was a lady, aged sixty-three years, and of good health excepting this condition. A small ileo-cæcal tumor could be felt. On making an incision which opened the peritoneal cavity and also explored the iliac fossa, the condition was as described in Mr. Noyes's case. To dissect the appendix from this mass of plastic exudation would have been a prolonged operation, difficult and risky on account of the extensive raw surfaces which would be left behind in the peritoneal cavity. I closed the peritoneal wound and left a drain in the wound outside the cavity. There has been a marked improvement in her condition, there is a constant but purulent discharge, trifling in quantity, from the tube, and anything like a repetition of the attack has occurred only when the tube was occluded, or temporarily dispensed with. She and her family decline the risk of further operation. In a case already reported where I did laparotomy expecting to find an abscess, I met with a similar embedding of the appendix alone (the cæcum was free) in such a firm mass of exudation that I deemed it prudent not to attempt its excision.

In another patient, a boy of fourteen, who had experienced a number of attacks in one year, I recommended excision of the appendix, which was done later by one of the most competent and experienced surgeons in the city. The mass of fibrinous exudation about the cæcum and appendix was so large that a stricture of the cæcum was diagnosticated, an anastomosis made between the lower end of the ileum and the ascending or transverse colon. By the time the wound of this operation was healed, the attacks recurred. A subsequent operation, at which I was present, was done with great skill and patience, and the appendix found containing a small amount of mucopus, and a concretion in the midst of the exudation. But it was a very difficult performance, and one by no means devoid of risk, but fortunately followed by recovery and no return of symptoms. These are different conditions from those met with in the cases reported by Senn, and justify the conclusion I have formed, that excision of the appendix is not to be considered an easy and safe operation. While it may, on technical grounds, be considered less dangerous than other intra-abdominal operations, where the mortality rate is small, such as craniotomy in uncomplicated cases, removal of the uterine appendages, we are liable to meet with conditions, the management of which makes the procedure risky to the life of the patient—and I may add, that at present I know of no symptoms, or signs, or method of examination by which we can detect these conditions.

In the boy above mentioned upon whom two operations were done, the most careful palpation did not reveal the presence of such exudation as was discovered on dissection. In the presence of a distinct induration or tumor I should certainly think the operation complicated and dangerous, while admitting, that, if the appendix

[1] In a paper read before the College of Physicians of Philadelphia, January 1, 1890.
[2] Journal of the American Medical Association, November 2, 1889.
[3] Tiern & Swallow, Lancet, February 9, 1889.

were free or provided with light and recent adhesions, its removal would be a simple, reasonably safe procedure. The testimony of statistics we cannot yet give, for few operations have been done. But the number is increasing, and we shall soon be in a position to make sound conclusions. It is to be hoped, however, that operators in reporting cases, will ascertain whether hernia has followed the extensive incision of the abdominal wall, which has been practised "at least three," and even four and five inches in length. I have seen this winter half a dozen cases of serious ventral hernia following operations on the appendix, the victims of which complained bitterly of their condition. This sequel threatens to interfere with the usefulness, and disturb the comfort of a certain number of patients whose lives have already been risked by the operation, unless we believe that operation to be absolutely safe. With this additional uncertainty attached to the fate of the patient, and with the traditional uncertainty of the course of the disease, it is of the greatest importance that we bring every accessible fact to light that can help us to formulate a safe rule of treatment.

Analogy Between Operations for Appendicitis and for Salpingitis.—Dr. W. M. Polk said the subject discussed in the paper was one to which he had given some attention in connection with his gynecological work. It had seemed to him that in many respects the question of operating for appendicitis was in about the same stage as was that of operating for disease of the uterine appendages several years ago. The removal of the uterine appendages which had no adhesions was quickly found to be, under antiseptic peritoneal surgery, one of the simplest operations, and was very rarely attended by a fatal result. He supposed that was about the position which Dr. Bull would grant with regard to removal of the free vermiform appendix. But when it came to removal of the tubes and ovaries which were extensively adherent and matted together with the pelvic contents in general, as they frequently were, it was found that a different method had to be resorted to. In the earlier operations it was considered necessary to bring the site of the diseased organs into view, which resulted in a good deal of exposure of the abdominal contents. But after a time it was discovered that the diseased mass could be separated from its attachments—literally torn out—by mere touch, without the aid of vision, and that the resultant hemorrhage, which at first had been looked upon as a great drawback to proceeding in this way, really amounted to little, and had no material influence in the production of sepsis, either immediate or remote. The cases with adhesions, therefore, came to be operated upon as freely as others, and the immediate results, with rare exceptions, had been as favorable as those following operations on cases in which there were no adhesions. It was true that in these cases one was operating in a region in which the vessels were much less important than he was likely to come in contact with in appendicitis, for while all knew that the appendix frequently lay close to Poupart's ligament, yet it not infrequently lay alongside the larger vessels, might even cross them and lie down in the pelvis, so that any effort at tearing up the adhesions except by careful dissection seemed to him, independently of the nature of the organ one was dealing with, to be attended by somewhat more risk than the same procedure addressed to the tubes and ovaries. If the tube and ovary were torn there would merely be an escape of pus, which could easily be washed out and the diseased mass entirely removed. If one happened to tear the attachment of the stump to the uterus, the bleeding would be of little consequence, and could be readily corrected; but if one tore the attachment of the vermiform appendix to the intestine, or tore the intestine itself, another operation would be added to the original one which required a good deal of time and skill. He thought, therefore, that a little greater conservatism was proper in dealing with cases of appendicitis than in dealing with cases of diseased tubes and ovaries. It would be interesting in this connection to know what was the danger to life from recurrent attacks of appendicitis, and he asked Dr. Bull what was the likelihood of internal perforation.

Dr. Bull replied that he knew of no statistics bearing on this question.

Dr. Polk thought the answer to this question would have an important bearing upon the course of treatment in recurrent appendicitis. When one saw a case for the first time, he was brought face to face with the question of likelihood of perforation taking place at some time into the abdominal cavity. If the history of cases of recurrent appendicitis were at all like that of cases of ovaritis and salpingitis, it would seem to show a tendency in the vast majority of instances to the development of abscess which pointed outward. The adhesions which formed around the extravasated material, or escaped intestinal contents, would shut them off, and at each successive attack further exudation would add thickness to the capsule shutting off the inflammatory mass from the peritoneal cavity.

Would Make Exploratory Incision.—He believed an exploratory incision was always advisable. That was the rule generally adopted with regard to inflammation of the uterine appendages. It was no longer regarded necessary, in starting out with laparotomy, always to remove the offending structure. The surgeon now considered himself entirely free to deal with the case according to the conditions which he found on entering the abdomen.

From a Medical Point of View.—Dr. Beverley Robinson said that his discussion of the subject would be from a medical, not a surgical, point of view. With this explanation, it would be understood that in the cases which he had regarded as those of appendicitis, the diagnosis had rested on the symptoms. So far as recurrent attacks of appendicitis in hospital practice were concerned, he confessed not to have encountered them. Within the past three or four years he had seen two cases which he had regarded as of this nature, in private practice. One case occurred in a boy of about twelve years, the attacks seeming to follow some error in diet. There was pain in the region of the cæcum, some resistance on palpation in the same locality, there was either nausea or slight vomiting, and, he believed, also constipation. He saw the boy in two attacks, and the symptoms were relieved within a few days by what seemed to him to be rational medicinal treatment, namely, quiet, milk diet, small doses of opiates, enemata, and, perhaps, a commencing laxative dose of calomel. The boy recovered each time without it being considered necessary to resort to surgical interference.

The past week he had witnessed another attack in a boy, eighteen or twenty years of age, whom he had first treated for the same condition last summer, at Newport. One evening, in passing the house of Dr. Bull, he thought of going in and asking him to make an exploratory incision in this case, but on the following day he found the young man much better. In view, however, of the serious symptoms present during the last attack, which had given him a good deal of solicitude for a period of forty-eight hours, he thought that if there should be another recurrence he would have an exploratory incision made. If the appendix could be easily reached, were non-adherent, and could be removed without risk to life, it seemed to him at first thought that it were better taken away. In the second case related, however, the judgment of the surgeon could be relied upon as to further procedure after opening the abdomen.

Let Experience Answer.—Dr. Peabody thought the various questions propounded in the paper could be answered only by surgical experience. For example, the question whether the operation is dangerous or not? The reply to one of the interrogatories, however, must come as much from the physician as from the surgeon, namely, should the operation be done for frequent recurrences of appendicitis? The physician must learn from the surgeon how grave was the operation, but he could himself decide

as well of the necessity of an operation as indicated by the incommoding of the patient, by frequently recurring attacks, and by the danger of a recurrence at a time when surgical aid could not be reached if it were demanded. These two reasons for surgical interference, he thought, were in fact sufficient in many cases to justify resort to it when the appendicitis recurred at frequent intervals. As the other speakers had said, the form of operation seemingly indicated at the time was the one which should be done.

Recovery from Recurring Appendicitis Usual.—Dr. W. H. Draper said he had seen a number of cases of recurring appendicitis, at least cases which he had supposed to be such, in which recovery had taken place without an operation. He did not recall a case of fatal peritonitis from appendicitis where there had been a previous attack. It would be very interesting to know the experience of the profession with regard to the number of fatal cases in which there had been previous attacks. As stated, in his experience the fatal cases had been in persons who had never before had an attack.

How many Recurrences Indicate an Operation?—Dr. Robinson inquired how many times there must be a recurrence to justify interference; two, three, or four times? Or did it depend on the severity of the attack?

Dr. Clement Cleveland had seen several cases of appendicitis, but all had recovered under operative treatment (at the first attack), and the histories offered no answer to Dr. Bull's question. He had been much interested in what Dr. Polk had to say in comparing operations on adherent Fallopian tubes and adherent vermiform appendices, and had been much impressed with Dr. Bull's conservatism in breaking up the adhesions in the latter-named cases. It was an entirely different matter where we had the tubes and ovaries embedded in the pelvis. At present we took them out and the patients recovered even under the most extreme circumstances. But now and then, when the intestines were attached firmly to the tubes, it became necessary to observe the utmost caution in tearing them away. He had himself lately seen two such cases. In one he operated himself for pelvic hematocele, the patient being already in a septic condition. He found the intestine firmly adherent to the mass, and while dissecting it away, which he thought could be done easily, his finger entered the pus-cavity. He could then do no more than wash out the pus-cavity, pack it with gauze (it was situated near the abdominal wound), and put in a drainage-tube. The patient died within forty-eight hours. The point of interest in the case, as it related to this discussion, was the fact that thirty-six hours after the operation a fecal fistula became evident, and at the post-mortem examination it was found that the intestine had broken down at the point where it had been adherent to the mass. Evidently the abscess was pointing in that direction and would have opened into the intestine, had he not disturbed it. Judging from this case and others which he had seen, tearing away tubes and ovaries from their adhesions in the pelvis was entirely different from tearing up adhesions about the vermiform appendix.

Six Cases of Appendicitis; Three Operated upon, All Died; Three not Operated upon, All Recovered.—Dr. Andrew H. Smith recalled six cases of appendicitis with suppuration which had come under his observation, in three of which surgeons operated and all died, while the other three not operated upon recovered. Of the six only one was a case of recurring appendicitis. It was operated upon at the second attack, and pus was reached almost immediately upon division of the abdominal walls. The search for the appendix, however, was prolonged, the intestines protruded from the wound, and the patient never rallied from the ether, although in fairly good condition before the operation. In one of the other fatal cases the appendix was found and removed; in the other the abscess was opened and no attempt was made to find the appendix. In one of the cases not operated upon the pus discharged into the bowel, and recovery took place; in the other two the pus found its way to the surface.

Do Recurrences Make a Firmer Barrier?—He thought every recurrence of an appendicitis must result in a firmer barrier to resist rupture of the abscess into the peritoneum, if one had formed, rendering more likely its pointing externally or into the cæcum. In recurrent attacks it seemed that no pus formed, or else it was small in amount and escaped into the bowel and out with the fæces, without detection. He would be loath indeed to sanction an operation in these cases as a mode of prophylaxis. His experience in that direction had not been at all satisfactory.

Three Conditions of Appendicitis.—Dr. George F. Shrady said, we must take into consideration that there were three conditions of appendicitis. One was simple inflammation, which left no results, or only slight adhesions. Another terminated in fibrinous effusion, more or less extensive; while the third terminated in abscess.

With reference to the first condition, he had had a good deal to do with one case of the kind which made a great impression upon him. A physician whom all present had known, had had four distinct attacks of appendicitis, in all of which the question of operation arose. Dr. Shrady had seen the patient in three of the attacks, all of which were well pronounced, while the fourth occurred in Paris, where the patient was seen by a distinguished surgeon, who made a like diagnosis. There also the question of an operation came up. Each attack was attended with all the usual severe symptoms which would appear to usher in the formation of an abscess; there was dulness, tenderness, more or less rigidity, and some œdema in the neighborhood of the cæcum. In each attack the advisability of operation was freely discussed. The patient was willing to take the risks, but in each instance the symptoms gradually disappeared, and he recovered. He asked the speaker, should he survive him, to examine his appendix, which was done when death occurred some time subsequently, of another cause. The appendix was found perfectly sound. There was not the slightest appearance of any inflammation around it; it was not even thickened.

Usually, in cases which were acute and terminated in abscess, an operation was required at once, and generally resulted in cure. He had himself operated several times for abscess with a good result. Three or four times, however, he had observed all the symptoms pointing to an abscess except well pronounced fluctuation through the abdominal walls, yet on introducing the hypodermic needle the tap proved dry. He had seen two or three distinguished surgeons do the same thing.

He quite agreed with what Dr. Smith had said, that frequent attacks of fibrinous inflammation were so many guarantees against further trouble. Given a case in which there was a suspicion of progressing disease in the appendix, it seemed to him we were entirely warranted in making an exploratory operation; but after having been satisfied that the disease was not progressive, that the adhesions were firm, he believed we ran great risk in going farther. It should be remembered, also, that there was sometimes great difficulty in making a diagnosis in these cases. In the case of the physician just mentioned, he had studied it with great interest, and the physician himself, who was distinguished for diagnostic acumen, had studied it with him, and believed on two occasions that pus had formed, and the operation was postponed because no pus was found on hypodermic puncture.

He recalled one case near his country home, in which he discovered fluctuation and other evidences of pus formation, and prepared to operate, but on the morning of the day when the operation was to have taken place, the abscess emptied spontaneously into the cæcum.

Altogether each case depended upon its own merits, and the question of treatment rested upon the judgment of both surgeon and physician. We had to wait for statistics, and in the meantime the limits of the operation must be considered *sub judice*.

Dr. E. L. Partridge said there was one class of cases to which comparatively little attention seemed yet to have been given. They were those which Dr. Shrady probably had in mind, in which the appendix alone was affected, with little or no peritoneal adhesive inflammation. The symptoms, it would seem, must be vague, and it was difficult to fully convince oneself of the accuracy of the diagnosis, yet post-mortem examinations had shown that such cases did occur. Operations would come to be performed, he thought, in cases in which the appendix would be found distended, containing perhaps a good deal of pus, perhaps only a little, the cases giving a history of recurrent pain, showing that considerable time had been occupied in the production of the pathological changes; yet very little surrounding peritoneal inflammation or adhesion would be found to have taken place. He would suppose that these cases, when recurrent, were very highly dangerous, and did not belong to the class referred to by Dr. Draper and others, in which recurrence afforded protection by throwing out further exudate. Where there were repeated attacks of local pain, pointing to appendicitis, but absence of induration, he would suppose the prognosis was grave.

The President said he supposed Dr. Partridge referred to cases in which there had been an inflammation of the appendix, but which had entirely subsided when another attack occurred, not dependent upon the first.

Dr. Partridge replied that there might have been a catarrhal condition, or small ulcer, or fecal matter left in the appendix, leading to the second attack, or, seemingly, there may have been no remains of the previous attack whatever.

Dr. Shrady remarked that the cases referred to by Dr. Partridge were precisely those which called for an operation and removal of the appendix.

The President thought further experience was necessary to determine whether the mortality attending recurrent attacks compared favorably or unfavorably with that attending the first attack. He had himself seen one case in which there had been three attacks, the diagnosis apparently being beyond question. The patient had now been free from a recurrence for five years. In two other cases the recurrent attacks passed off with comparatively light symptoms. In a case which entered his ward at St. Luke's Hospital, the first attack had been diagnosticated as appendicitis, in the second the same diagnosis was made, but by different physicians, and in the third attack an immediate operation was deemed necessary; but the symptoms rapidly improved, and within twenty-four hours had nearly disappeared, leaving only a certain amount of induration. This passed away, and the patient left the hospital as well as could be desired.

He asked those present their experience in regard to the mortality in recurrent attacks. A large collective experience on this point was necessary for our guidance in advising in such cases. It was possible to suppose, as Dr. Partridge had suggested, a condition of the appendix in which a recurrent attack might be a source of the gravest danger.

Dr. Bull read the following communication from Dr. Weir, who had just sailed for Europe:

"New York, February 3, 1890.

"My Dear Dr. Bull: Will you kindly add my view to your own concerning the important question of intermediate laparotomy for quiescent recurrent appendicitis. Our views as surgeons have been so largely made upon the idea of a perforative or gangrenous appendicitis, that I think the milder lesions of an inflamed or stenosed appendix, with, in the latter, retention of secretion, has not been sufficiently considered as a possible cause of the lighter attacks, that are more frequently seen by the general practitioner than by the surgeon. More should be known of the natural history of this form of the affection, before accepting the dictum that an operation should be employed in recurrent attacks to prevent a possible, or even probable, danger. I have only seen, in some fourteen removals of the appendix, one in which the perforation was caused by retention of fluid by stenosis, and in this the abscess progressed slowly. All the others were perforated by concretions or foreign bodies, in which cases, according to Pawlowski, a more intense infection of the peritoneum is to be expected. Moreover, as far as I can learn, in none of the rapidly increasing number of cases in this city operated on recently to prevent a repetition of appendicitis, has there been any perforation or any decided indications of peritoneal changes found when the appendix was exposed. I have felt that only such patients should be advised to submit to this intermediate operation in whom the perityphlitic recurrence takes place so often as to seriously impair their usefulness, or those who by force of circumstances are apt (by travelling and the like) to be removed from surgical supervision when an acute attack begins. Such has been the advice I have felt impelled to give in several recent cases, and I have had no reason yet of sufficient weight to make me depart from this rule. For, after all, laparotomy, however carefully conducted, is an operation of risk."

Complications of Recurring Appendicitis.—Dr. Polk could recall but two cases of recurring appendicitis which had terminated fatally. One was in a patient who developed portal phlebitis and subsequently died of pyæmia. The other had been in a patient with a similar history, related at the last meeting of the Society by Dr. Murray. These complications should be taken into consideration in estimating the probable dangers from frequently recurring attacks.

The President said, with regard to Dr. Murray's case, that there was no history and no symptoms, while the patient was in the hospital, pointing to trouble in the appendix. The symptoms pointed to abscess of the liver, which at the autopsy was found to be the result of an old appendicitis. Such cases had not been infrequently observed.

Dr. Polk then recalled a third case which he had seen, about fifteen years before, the patient dying of multiple abscesses of the liver and phlebitis, which communicated directly with the diseased appendix.

Dr. Bull said, in reply to the question, how many attacks constituted an indication for the operation? that is was the frequency of the attacks rather than the number which should be considered. In one case the attacks might be distributed over a very long period; in another, over a very short period. In one case which he had seen, the first attack had occurred twenty years ago; the second only a month ago. He thought that any person who was laid up for two or three days, or a week, or ten days, with symptoms recognized to be those of appendicitis, sufficiently often to interfere with his labor, or to make him uneasy regarding the safety of his condition, should take into consideration the propriety of an exploratory incision. In a person who had no business to attend to the symptoms might be permitted to recur for a longer time, with the hope that they would eventually cease, for all knew that in some instances spontaneous recovery did take place. In the case of the boy cited in his paper, the propriety of an operation arose very forcibly, for between March and July of one year he had six attacks, and at each attack his parents were thrown into a state of great excitement. The boy could not go to school, and the family was afraid to go to Europe. Regarding the fatality during recurrent attacks, the testimony of many physicians would prove of great value. For his own part, he seldom saw cases until the question of operating arose.

The case cited by Dr. Shrady, he thought, was an important one, for it showed that certain pathological changes could exist in the appendix and subsequently quite disappear, or else that we attributed certain symptoms to the diseased appendix which had no such origin at all. It was a curious fact that there was a number of autopsies on record in which the appendix had been found in various stages of disease, so-called, presenting thickening, adhe-

sions, stenosis of the orifice, etc., yet the history contained no reference whatever to symptoms of appendicitis. That fact cast some doubts on the symptoms of this form of inflammation, as they were known at present.

Operations for Recurring Attacks where no Pathological Changes were Found.—Dr. Bull said that, on the basis of reasoning presented in his paper, he had advised and witnessed an operation in a case in which no lesions were found which could account for the symptoms of appendicitis. The appendix contained no concretion, and there was no indication that traction could be made upon the gut injuriously because of adhesive inflammation. This patient, a physician, had then undergone a serious operation to get rid of certain symptoms attributed to appendicitis which they were unable to explain when the appendix had been presented to view. In a case which a gentleman operated upon at St. Luke's Hospital, the appendix was found simply bent upon itself, it contained no fluid, and while it was said to be thickened, it certainly did not look like an appendix which had given rise to serious symptoms. In a case operated upon by Dr. Curtis he had been told that there was pus, which evidently would have formed an extra-peritoneal, not intra-peritoneal, abscess. The condition corresponded to what Dr. Draper had mentioned, namely, successive attacks during which the inflammatory exudate had sealed the appendix from the general peritoneum, and subsequent formation of pus in considerable quantity would probably have been guided toward the exterior rather than toward the interior. But these, he said, were only questions of detail a knowledge of which served to increase the difficulties of arriving at a definite course rather than to lessen them. Yet, in a case in which there were frequently recurring attacks, he would still be willing to recommend an operation, and he would perform it with a great deal of confidence; but he could not say to the patient that he regarded it as perfectly safe.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 3, 1890.

Alfred L. Loomis, M.D., President, in the Chair.

The Fallacy of the so-called Hot-Air Treatment of Phthisis.—Dr. W. Gilman Thompson devoted the first part of a paper with this title (see p. 457) to a review of the results obtained by this method of treatment in this country and in Europe. Personally he had had no experience with it. It had impressed him as being based on false principles, and in practice likely to lead to negative, if not to absolutely harmful, results. And for this reason he had instituted certain experiments in the Loomis laboratory to determine whether or not the inhalation of hot air could destroy or arrest the development of the tubercle bacillus in the lungs, for this was in fact the object of treatment.

He used a coiled iron cylinder connected with a bellows, the cylinder being heated by a Bunsen burner. Thermometers were placed in the straight horizontal part of the cylinder at varying distances from the nose of the animal inhaling the hot air, and also in the trachea and thoracic cavity. The following case was an example of a number: In a bitch the temperature in the lung previous to the inhalation of hot air was 102.3° F. She was made to inhale for more than an hour air above 200° F., but the temperature in the lung and of the body remained unchanged. The inhaled air was raised to 290° F., when the animal became very uncomfortable and restless, there was evidence of local irritation from the heat, profuse salivation, reddened and swollen tongue. Under these conditions the body temperature rose 1.8°, but as great a rise had been observed in dogs subjected to almost any kind of operation. In the case of a cat the temperature of the inhaled air at the mouth was 250° to 270° F., continued an hour, the animal showed very decided discomfort, but the temperature rose only two degrees. In another case the lungs of the dog were removed, hot air at 300° F. forced in for nearly an hour, a thermometer placed directly into the lung tissue, yet it was impossible to raise the temperature more than three or four degrees. These experiments showed that when air at a temperature of 300° F. was forcibly driven into the lungs, the moisture was still sufficient to cool it to nearly the temperature of the body.

In view of the statement which had been made that a temperature of 102° F. retarded the growth of the tubercle bacillus, it was interesting to note that the normal temperature of rabbits was 102.5° F.; of the guinea-pig, 103° F.; of the pigeon and fowls, 108° F., yet it was well known that all these animals were readily affected by tuberculosis.

It had also been stated that the inhalation of cold air was noxious to the tubercle bacillus, and that pulmonary hemorrhage could likewise be checked in that manner. By experimentation he had been able to refute this view also. A dog was made to inhale air below 40° F. an hour and a quarter, yet the temperature in the lung fell only two degrees. A fall of this amount would never prove sufficient to control hemorrhage from the lung by vaso-motor contraction.

The conclusions from his experiments were: 1. That the continued inhalation of air heated from 200° to over 300° F. at the nose did not raise the temperature of the lung at all in some cases, even when inhaled an hour or more; in other instances there might be a slight rise, from two to four degrees, due to other causes. 2. The temperature of the trachea under corresponding conditions rose only four to six degrees. 3. Cold air did not affect the temperature of the trachea or lungs any more than did hot air.

The experiments showed the uselessness of the so-called hot-air treatment of phthisis. Since making them he had learned that like conclusions had been arrived at by a Frenchman.

Dr. J. Lewis Smith discussed the paper and said that about two years ago a brother of Weigart was given permission to try his apparatus in the treatment of some cases of tuberculosis in the wards at Charity Hospital, but the patients were not as much benefited by this new method as by antiseptic inhalations.

A Study of Cerebral Palsies of Early Life, Based upon an Analysis of One Hundred and Forty Cases.—Drs. B. Sachs and Frederick Peterson were the authors of the paper. It was read by Dr. Sachs. All the cases reported, with few exceptions, were examined by one of the authors. A number were seen through the courtesy of Drs. Gibney, Townsend, and Gray. In two recent ones autopsies were made, a matter of importance, since few had been recorded in literature. Few nervous diseases were better understood than infantile spinal paralysis; but about few was less known than about infantile cerebral palsy. We should no longer be satisfied to recognize simply spastic hemiplegia, diplegia, or paraplegia, but should attempt to determine the special morbid condition underlying each form. First, a clinical study of the cases was made, a few reported in full, tables arranged of the various features. Of the 140 cases, 87 were males, 53 females; 105 were hemiplegias, 24 diplegias, 11 paraplegias.

Case I. A. F——, aged four, male, first child, difficult labor and instrumental delivery. From very first day right hemiplegia. Slight athetosis and associated movements. Contracture at elbow, formerly pes equino varus improved by operation. All reflexes of right side lively. Mental condition fair.

Case VIII. H. K——, male, aged twenty two months, acquired right hemiplegia, onset at six months, following convulsions during pertussis and pneumonia. Trace of weakness in right arm; distinct spastic paralysis of right leg; knee-jerk exaggerated; feeble-minded. This case made at first the impression of a monoplegia.

As much as the cases differed from one another they

also had much in common. The child was either born with, or in its early life developed, some form of paralysis—a hemiplegia, a diplegia, or a paraplegia. In congenital cases there had been some disturbance during pregnancy, or the labor had been tedious and difficult, or definite cause could not be given. In the acquired cases the onset of the paralysis might occur after acute infectious diseases, during convulsions, or from causes which could not be fathomed. In all the cases there was more or less retardation of growth, all stages of mental impairment, but a few of good mental development. No changes in sensibility were observed, and the electrical reactions were never markedly altered.

Diplegias and paraplegias were more likely to be of congenital origin, hemiplegias to be acquired the first three or four years after birth, yet over twenty per cent. of all the hemiplegias were congenital. Diplegias and paraplegias were comparatively short lived, hemiplegias often attained a very considerable age.

It had been doubted whether aphasia followed the same laws in infantile hemiplegia as in the adult form. Aphasia could be said to be present if the hemiplegia came on in an individual who had already acquired articulate speech, say after the second year. They had records of seventeen cases of hemiplegia with undoubted aphasia; of these ten were cases of right hemiplegia and seven of left.

The reflexes were either lively or exaggerated in the large majority of cases. Disturbances of motion, such as choreiform athetoid associated movements, were observed with unusual frequency after hemiplegia, and, as they had learned, also after diplegias in children. Such disturbances of motion after single and double hemiplegias had an unusual interest; they all pointed to some interference with the proper transmission of motor impulses, either of the voluntary or of the inhibitory kind. Rigidity, with contracture, was one of the cardinal features of all these palsies. Why flexor and not extensor muscles, abductors and not adductors were the seat of contracture, was a puzzling question. It was, probably, due to the mechanical principles involved in the construction of joints. As to trophic disturbances, there was likely to be disturbance of circulation in the limb, causing livid hue. There was retardation of growth.

The association of epilepsy with infantile cerebral palsies was, perhaps, the gravest feature. It was present in 44.3 per cent. of all their cases.

As to cranial defects, in most cases of hemiplegia there was flattening of the skull on the side of the lesion, and in almost all cases of cerebral palsy most of the cranial diameters were below normal averages.

They had analyzed the records of one hundred and five autopsies, including two of their own. The most conspicuous feature of this table was the prominence given to atrophy, sclerosis, and cysts, but all these were terminal conditions and were almost useless for the determination of the initial lesion. We were forced to rely upon cases in which the initial lesion had not disappeared, and here the first fact which was brought out with great distinctness was that hemorrhage, thrombosis, and embolism, the conditions which gave rise to adult apoplexy, were also found to be a frequent cause of the cerebral palsies of early life.

Regarding the polio-encephalitis of Strümpell, or polio-encephalitis corticalis, he asked what proof had we there was such a condition? Anatomical proof, none. They were willing to concede that some of the many cases of atrophy and sclerosis may have been due to this polio-encephalitis, but it was unfortunate for Strümpell's theory that all of the autopsies made soon after the onset of the disease had shown other conditions, and not a polio-encephalitis.

Meningeal and cortical hemorrhages were shown to be more frequent in children, while any other cerebral hemorrhages were more frequent in adults. This would explain the more serious character of the symptoms in the young, and the more frequent occurrence of epilepsy and mental impairment in them.

Regarding symptoms depending upon location or extent of the hemorrhage, they said that if one could exclude embolism, and sudden and very large hemorrhage, and lesions of the lower gray centres, the absence of convulsions at the outset of an apoplectic attack was in favor of a lesion in the interior of the brain rather than in or upon the cortex. Of this he was more certain, that whatever might be the symptoms accompanying the onset of an apoplectic attack, if the convulsions reappeared after the initial symptoms the lesion was cortical, or else an additional injury had occurred.

The autopsy in one of their cases (Dr. Peterson's) was on a boy aged twelve, who began to have headaches when about nine years old, and went on to have loss of memory, steady progress toward dementia, toward the end an epileptic fit, right hemiplegia, constant right-sided hemiepilepsy. The autopsy showed on the right side, subdural space seat of a limited pachymeningitis hemorrhagica interna, but merely a thin organized detachable stratum of long standing. Over the left side the pachymeningitis was very wide spread, over the convexity of the hemisphere the hæmatoma was very thick, some of the strata undoubtedly dating from the beginning of the symptoms. Between two and three ounces of fresh coagula were spread on the convexity, especially in the Rolandic region. There was no disease or injury of the cranial bones, no lesion in the interior of the hemispheres, ganglia, pons, or medulla.

As bearing on the question whether it was possible to determine the morbid lesion by the symptoms they said:

The form of paralysis is not the most important factor in diagnosis. Acquired cases of hemiplegia and diplegia, but particularly the former, are apt to be due to the same causes that prevail in adult apoplexies; namely, hemorrhage, thrombosis, or embolism; meningeal and cortical lesions are more frequent. Absence of convulsions at onset probably point to an intra-cerebral lesion. Occurrence of convulsions at onset points generally to cortical lesions or to embolism anywhere in the brain. In a few cases affections of the gray matter lower down in the central nervous system may also be attended by convulsions. Frequently repeated convulsions after onset are more than likely due to cortical lesion. Cases coming on after acute infectious diseases have been proved to be due to vascular derangement, particularly to hemorrhage and embolism, but some cases may be due to a polio-encephalitis corticalis; the onset with very high fever and convulsions makes the latter more probable. Traumatism is an important factor in the causation of meningeal hemorrhage during early life and particularly during the act of labor. Congenital cases of diplegia and hemiplegia may be due to early encephalitis. In acquired and congenital cases of hemiplegia and diplegia we may have either a condition of porencephalus or simple arrest of development. If acquired, there would seem to be a history of slow development of the symptoms without predisposing cause. If congenital, there may be a history of traumatism to mother. In later life, hemiplegia or diplegia, associated with large amount of mental impairment and with contractures, point to general atrophy, sclerosis with secondary degeneration, or to a condition of porencephalus, the origin of which it is often difficult to determine.

A few closing remarks were devoted to the prophylaxis and treatment.

Four Causes of Cerebral Palsies in Infants.—Dr. J. Lewis Smith was asked to open the discussion, but each speaker being limited to five minutes he could read only a part of his notes, in which he divided the causes of these cases into four groups: those due to intracranial hemorrhage, to cerebral tuberculosis, to tumors, and to spurious hydrocephalus. He thought he had seen cases due to embolism.

Causes of Intracranial Hemorrhage.—The chief cause was prolonged and difficult labors. The blood clot interfered with the function of the pneumogastric, the child was born asphyxiated, and in six cases in which he

had made autopsy the lungs were scarcely inflated at all. He thought a not uncommon cause of protracted labor and cerebral injury was the injudicious use of ergot by midwives, who administered the drug sometimes hours before the termination of labor. Intracranial hemorrhage sometimes took place also in infectious diseases, and during the severe cough of pertussis leading to cerebral palsy.

Dr. L. C. Gray thought the paper was a valuable contribution to our clinical knowledge of these diseases. We all knew that the symptoms mentioned existed; that there were the types of paralysis spoken of; that the various anatomical lesions took place which were mentioned in the tables, but what we did not yet know was how to link a given set of symptoms to a given set of lesions. After all the clinical knowledge which had been gotten together, and after all the tables of the pathological lesions which had been set before us, it became simply a matter of shrewd guessing as to how we were to link them together.

Strümpell's Theory in Contempt.—He had not much respect for the theory advanced by Professor Strümpell. There was no proof of it at the time, there had been no proof of it since, and there was no *a priori* proof of it. There was not the slightest proof of it by analogy except in a most roundabout way between the motor convolutions of the cortex and the anterior horns of the spinal cord, and it seemed perfectly idle to attempt to trace an analogy between the diseases of the two parts.

It was sometimes difficult to tell just how much a child's backwardness was due to impaired mental function and how much to ignorance on account of feeling itself cast into the background from an early period. Then there were cases in which the hemorrhage took place and for a time remained stationary, then under slight treatment improved. He had in several such cases attributed the improvement to the treatment, but he afterward found that most variated treatment was attended by the same result, and probably had had nothing to do with the improvement.

Strümpell may be Partly Right.—Dr. C. L. Dana said he had been in the same state of mind as Dr. Gray regarding Professor Strümpell's views, but had more recently been inclined to think that there were some cases due to the kind of lesion described by that author. From what we knew of dural hemorrhage it would not produce such a laceration of the cortical substance. It would seem, then, that the condition in certain cases must be due either to cortical hemorrhage or to thrombosis. But it was inconceivable of a large number of pia vessels bursting and producing a deep cortical lesion, resulting in the changes spoken of, and we would have to assume, therefore, that there must have been an inflammatory disorder at the start.

Combination of Cerebral Hemiplegia and Peripheral Neuritis.—An interesting clinical phase of the disease had been observed by him in two cases, in which the peripheral throat neuritis of diphtheria had been combined with cerebral hemiplegia.

Dr. W. R. Birdsall thought there was little clinical and still less pathological data to support Professor Strümpell's theory. Although it did seem that infectious processes might be at the base of disease of both the cerebral cortex and of the gray matter of the cord, he thought the author did well to lay stress on prolonged labor as an etiological factor in the cerebral palsies of infants.

Treatment of the Deformities.—Dr. V. P. Gibney spoke of the orthopædic treatment of these cases. The most benefit was to be derived in overcoming trophic changes from want of use by employing electricity and massage and hygiene. Certain deformities were best overcome by manual force or division of the tendons. Much harm had been done by torturing these patients with braces, especially in as far as they interfered with exercise and development.

Dr. Sachs closed the discussion, and reiterated his views on Professor Strümpell's theory. It simply lacked proof, and we had better assume the symptoms were due to some other lesion until it had been shown they were due to polio-encephalitis corticalis.

New Instruments.

A NEW NASO-PHARYNGEAL FORCEPS.

By James E. Nichols, M.D.,
New York.

For the treatment of the very important and now commonly recognized disease known as chronic hypertrophic naso-pharyngitis, or adenoids of the pharyngeal vault, there have been many instruments in use with varying degrees of success. Since Loewenberg first made use of his post-nasal forceps, there have been numerous changes and modifications in his model, each one of which has, I suppose, a "raison d'être." I venture to add another to the number, for the reason that so many have expressed an appreciation of its excellence, and not with any claim to great originality. The main objection to the forceps of the Loewenberg or Hooper type is that having only a pinching edge with very small space between the blades when closed, the adenoid tissue is not cut off in a cleanly, efficient way, but rather torn off in bits of varying size, according to the strength of the pinch, and the grasp of the pincher. The result is a more or less roughened surface, and in many cases a stripping down of the pharyngeal mucous membrane, followed by unpleasant cicatrices. It is always advisable to leave as smooth a surface as possible after an operation of this nature, in order that speedy healing may take place, as well as the diseased tissue be entirely eradicated.

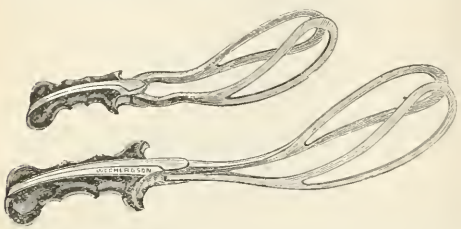
The forceps shown in the accompanying cut have proven successful in this respect. The curve of the scissors blade is such as to fit the vault's normal curve, and the cutting edge is long enough to cover the origin of most growths. Being fenestrated, a very large amount of tissue can be removed at one grasp, and I have rarely found it necessary to introduce the instrument more than twice on one patient. The scissors handle is believed to be more manageable than the straight handle, with spring, of the Gradle forceps, from which the principal features of the instrument are derived.

NEW OBSTETRICAL FORCEPS.

By C. D. Palmer, M.D.,
Cincinnati, O.

Dr. C. D. Palmer, Professor of Obstetrics and Gynecology in the Medical College of Ohio, and Gynecologist to the Cincinnati Hospital, has, with the valuable mechanical assistance of Max Wocher & Son, of Cincinnati, instrument manufacturers, gotten up a new forceps. The following are the points: Long forceps, weight, 18½ oz.; length, 14.5 inches; fenestræ, 4.81 inches; distance between blades, 2.87 inches; distance between tips of blades, .75 inch. They have a good pelvic curve, and a double cephalic curve in blades, and an English lock.

The handles have a slight backward curve, equal to forward curve of pelvic blades. There are tractors on the handles, which consist partly of wood and partly of metal.



The short forceps have a weight of only 12 oz. and a length of but 11.27 inches. The fenestræ of the blades are 4.18 inches long. The shanks are like Simpson's, with English lock. The distance between the blades at their widest part and at the tips is about the same as the long forceps. The handles have the backward curve also.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 13 to April 19, 1890.

Baily, Joseph C., Lieutenant-Colonel and Assistant Medical Surveyor. By direction of the Secretary of War, leave of absence for two months, on surgeon's certificate of disability, is granted, with authority for his admission to the Army and Navy General Hospital, Hot Springs, Ark., for treatment therein. Par. 10, S. O. 85, A. G. O., April 11, 1890.

Brown, Paul R., Captain and Assistant Surgeon, now at the Army and Navy General Hospital, Hot Springs, Ark. By direction of the Secretary of War, is relieved from station at Fort Thomas, Ariz., and will report in person to the commanding officer, Little Rock Barracks, Ark., for duty at that post, reporting by letter to the commanding general, Department of the Missouri. Par. 3, S. O. 84, A. G. O., April 10, 1890.

Middleton, Passmore, Major and Surgeon (St. Francis Barracks, Fla.). Leave of absence for two months, on surgeon's certificate of disability, is hereby granted. Par. 1, S. O. 85, Headquarters Division of the Atlantic, April 12, 1890.

Stephenson, William, Captain and Assistant Surgeon. By direction of the Acting Secretary of War, so much of paragraph 2, S. O. 83, A. G. O., April 9, 1890, from this office, as directs his transfer from Fort Verde, Ariz., to David's Island, N. Y., is so amended as to substitute the words Columbus Barracks, O., in place of David's Island. Par. 1, S. O. 89, A. G. O., Washington, D. C., April 16, 1890.

Mattews, Washington, Major and Surgeon. By direction of the Secretary of War, is relieved from duty in the Surgeon-General's office, this city, and will report in person to the commanding officer, Fort Wingate, N. M., for duty at that station. S. O. 90, par. 6, A. G. O., Washington, D. C., April 17, 1890.

Cleary, Peter J. A., Major and Surgeon. By direction of the Secretary of War, is relieved from duty at Fort Wingate, N. M., and will report in person to the commanding officer, Mount Vernon Barracks, Ala., for duty at that station, and by letter to the commanding general, Division of the Atlantic. S. O. 90, par. 6, A. G. O., Washington, D. C., April 11, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending April 19, 1890.

Beyer, H. G., Passed Assistant Surgeon. Ordered to the Yantic.

McCarty, Rufus H., Passed Assistant Surgeon. Died April 12th, with pneumonia, on the Yantic, at Key West, Fla.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 19, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	12	1
Scarlet fever	98	5
Cerebro-spinal meningitis	4	3
Measles	341	31
Diphtheria	116	32
Small-pox	0	0
Varicella	20	0
Cholera	0	0

The Old Fairfield Medical College.—At a recent meeting of the Oneida Historical Society, held in Utica, Dr. L. B. Wells contributed an interesting paper on the Fairfield Medical College. The school was established by the trustees of the Fairfield Academy in 1809 and at once acquired a good reputation. This was so great that in the second year of its existence the legislature of the State gave it a present of $5,000, and when it was chartered as a college in 1812, an additional grant of $10,000 was made to it. The charter of the college bears date of June 12, 1812. At a meeting of the Board of Trustees, held December 1, 1812, the following individuals were appointed officers of the college: Lyman Spaulding, Professor of Anatomy and Surgery; Westel Willoughby, Jr., Professor of Obstetrics; James Hadly, Professor of Chemistry; John Stearns, Professor of Theory and Practice of Physics. The class of 1812–13, as appears by the records, consisted of 18 medical students. During the session of 1813–14 it numbered 24. At a meeting of the Board, March 23, 1815, T. Romeyn Beck was recommended to the honorable regents to fill the office of Professor of the Institute of Medicine. January 30, 1816, the degree of Doctor of Medicine was conferred on two individuals, viz.: Horatio Orvis and Sylvester Miller. Dr. Beck gave his first course on medical jurisprudence. The number of students increased steadily up to the year 1834, in which year there were 217 students, of whom 55 received the degree of M.D. The following year the number was 198. The organization of the medical department of Geneva College, and subsequently the incorporation of the medical college in the city of Albany, together with other causes, had the effect to diminish the number of students in attendance at the Fairfield College. The last course of lectures was given during the winter of 1839–40. The number of students was 105, of whom 26 received the degree of Doctor of Medicine. Since the cessation of medical lectures the college buildings have been occupied by the Fairfield Academy. Dr. Lyman Spaulding was the first President of the college, and was succeeded in the office by Dr. Joseph White, who held the chair from 1817 to 1827. Dr. Willoughby was then elected to the office and held it until his death.

Perhaps the Sovereigns had Good Cause for Gratitude.—The late Dr. Philippe Ricord, of Paris, was the most decorated man in Europe, having more than two hundred crosses, medals, and other insignia of gratitude and admiration bestowed upon him by European sovereigns.—*Canada Medical Record.*

Medical Record

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Original Articles.

INDICATIONS FOR ABDOMINAL SECTION AND THE DETAILS OF ITS PERFORMANCE.[1]

By LAWSON TAIT, Esq.,

PRESIDENT OF MASON'S COLLEGE AND PROFESSOR OF GYNECOLOGY IN QUEEN'S COLLEGE, BIRMINGHAM.

I FEEL that no small amount of responsibility is involved in appearing before you in the character of an instructor, and it entails a good deal of care in the choice of a subject as well as in the method of dealing with it. It has occurred to me that as useful a means of complying with your request as any, would be to answer some of the questions which are constantly being addressed to me as to the details of the operation with which my name is associated, viz., the operation to which I prefer to give the English name of abdominal section; and if, for the sake of simplicity, I deal with the subject in an elementary way, I must ask you to believe that it is not with the desire to treat you as second- or third-year students, but in order to give you answers to questions which appear to those who make them to be of a high degree of importance. The great success which has attended the practice of some of us in this department has excited a great deal of curiosity among many of the visitors, especially from foreign countries, who come with the belief that I have some secret, concealed method, which I have not yet made public, either of destroying germs or otherwise, with which they are very desirous of becoming acquainted. I, however, know of only one means by which our success has been obtained, viz., by reducing everything in the details of my operations, in their inception and in their carrying out, to the verge of simplicity. You will, I am sure, agree with me that therein lies a very large amount of success. Hence, I have chosen for the title of my remarks to you "The Indications for Abdominal Section and the Details of its Performance." Upon the first part of this title one might speak for a month or two, but I propose in this respect to keep myself to the wide question of the indications for abdominal section; I mean, of course, in accordance with the teaching of the modern school of surgery, and by that I mean a school which has come into existence within the last ten years or so. This modern school stands in opposition to the older school, which holds views widely removed from and opposed to ours upon this very question of what constitutes the indications for abdominal section. Only ten years ago the operation of opening the abdomen was regarded as a proceeding fraught with very great danger.

If exploratory incisions existed at all before 1878, they were generally the results of a mistake rather than of deliberate intention. The surgeon would make a diagnosis and proceed to operation, and when he opened the abdomen he would find that he had made a mistake, and he proceeded no further. That might be called an exploratory incision, but that would hardly come within the meaning of what is now known as an exploratory incision. At present we make a diagnosis, we exercise all known means of arriving at a correct conclusion, and even then we know but too well that there is ample room for error; and that field of possible error is the field we traverse by our exploratory incisions. I may mention as *apropos* of this distinction a case which occurred in the neighborhood of Leeds, to which I was called by Mr. T. R. Jessop, for the purpose of operating. It was a case in which he and the medical attendant had diagnosed, for very good reasons, ruptured tubal pregnancy. When I saw the patient I was under the impression that the case was one of suppuration at the base of the kidney, a view which was not at all consistent with the clinical history of the case. Mr. Jessop was good enough to say that my opinion might be correct, but he thought not; but, seeing that the patient was very ill, it was agreed that we should settle the question the next day by an exploratory incision. The following day, therefore, we proceeded to open the patient's abdomen. I opened up a suppurating cavity, and put my finger into what we all satisfied ourselves was the pelvis of the kidney, and I removed concretions, apparently of renal origin; yet we turned out to be all in the wrong, for it proved to be a case of perityphlitis, a possibility which had not occurred to any of us, though it was a case in which as much skill and care as could be used had been employed. The history had been most carefully gone into, and even now, in going over the case, I do not see how we could have come to any other than our erroneous conclusion.

The lesson to be drawn from that case is not to be too cock-sure of one's diagnosis, but to open the abdomen, find out what the condition is, and then do your best to remedy it. Now, I have been subjected to gross misrepresentations on this point. It has been repeatedly said that this rule simply means opening the abdomen for the fun of the thing. It is certainly rather the converse of the old school, but our principle is not to stand in the way of our patient's recovery, and when the suffering is such as renders life unendurable, not to allow ourselves to be deterred by some fancied fear of opening the peritoneal cavity, from seeing what can be done to alleviate the condition. The mortality is so slight under ordinary circumstances that the result cannot well be expressed in percentages. I do not say that exploratory incisions are never fatal. They are so to the extent, perhaps, of two or three per hundred, but this result must be taken with the qualification that the exploratory incision is often made in cases which are quite hopeless from the beginning, such, for instance, as one recently at Southport, in the case of a patient who was supposed to be suffering from gall-stones. I felt satisfied at the time that it was a case of cancer of the liver, and not gall-stone at all, but the condition of the patient was such that I thought it was desirable to afford the patient a chance of relief, however slender.

Why, you may ask, did I make the incision? Simply because the patient and her friends had danced about from one physician to another to an extent that was damaging to the patient, beneficial to nobody, and excessively annoying to the medical man in attendance. My impression that it was a case of cancer of the liver would not have been likely to outweigh the half-dozen opinions of the others, who had concluded that the patient was suffering from something else.

I opened the abdomen by a two-inch incision, and settled definitely that the case was one of cancer of the liver. This patient did not suffer at all from the incision, and without it she must have died all the same; but if the operation had not been performed, a continued uncertainty would have added much to the discomfort of all concerned. Even the mortality of three per cent. must, therefore, be discounted, in that such deaths are complicated ones and not due solely to the operation. Let me take for another example a case of intestinal strangulation with fecal vomiting. You have an idea that there

[1] An address delivered to the Cardiff Medical Society.

is intestinal obstruction, but you have not a suspicion where the obstruction is situated. In such a case you open the abdomen, prepared to do the best you can. You may find it to be a case merely of acute peritonitis and your patient may die unrelieved, yet this result cannot fairly be placed entirely to the account of the operation. The complete justification for the operation is the extreme illness of your patient, concerning which the diagnosis may appear perfectly clear to you; but there is always the possibility that you have been mistaken, and that the condition be really one which might have been overcome by timely intervention. This supplies a justification which is largely limited to cases in which disease is diagnosed in a very early stage, or where the condition is very acute, as in the condition of acute strangulation, or in the case I have related under Mr. Jessop. It is in chronic cases that the second justification for exploratory incision is to be found. This brings us into the second great group of cases, which I will not define, but of which I may give you instance after instance. Take for example a case such as this: A girl, aged fourteen, just beginning to menstruate, has a bad attack of scarlet fever. You inquire into the history, and you find that it occurred when she was at school. There were no particular pelvic symptoms, but ever since the girl has complained of intense abdominal pain, interfering with her convalescence. This girl has begun to menstruate, but her periods are irregular. If you adopt the common course of relieving the pain by administration of morphine or opium, there is the danger of the girl becoming a confirmed narcotomaniac. As the case goes on, it goes from bad to worse. Besides irregular menstruation, the periods become invariably associated with terrible suffering. Then the patient gets married, and marriage intensifies and aggravates her condition. She is examined and found to have a retroflexion. A pessary is put in, which makes her worse. Then cervical stenosis is found, and so on until, what between the treatment and her sufferings, her life is made about as miserable as it well can be. The retroflexed uterus which has been discovered is of itself quite a harmless condition, and when it does hurt and can be relieved, the uterus is returned to its normal condition. But the climax comes in the discovery of a lump the size of a Tangierine orange on each side of the uterus, and, briefly, the case turns out to be one of ovaritis, with adhesions and probably occlusion of the tubes. The appendages become active, and the uterus is displaced downward and backward by the adhesions, and in the attempt to correct the displacement the case is converted into one of pyosalpinx.

When such a patient comes to me in my consulting-room, I have to decide the question what is to be done. The patient is twenty-eight years of age, has been married, let us suppose, seven or eight years. There is no history of pregnancy, and that fact alone is sufficient to show that there is something the matter with the generative apparatus—probably the Fallopian tubes are blocked. Now, what is to be done in such case? In the old days these cases were left alone. They went on, and a great number—perhaps fifty per cent.—died from the disease itself, or rupture of the abscess into the peritoneal cavity, with death from peritonitis. Dr. Hingston Fowler has shown that fifty per cent. of the cases in the hospital of pyosalpinx died of blood-poisoning, rupture, etc. The question is, can you say to the patient, "Your condition is such as to endanger your life?" In most cases I am satisfied you can say so. If you put the danger to life out of consideration, what can you do to relieve this patient? Is she to be condemned at the age of twenty-eight to live a life of constant misery, unable to fulfil her functions, domestic and marital? She will have to remain most of her time on her back in bed. She is not a wife, for intercourse is invariably painful in the extreme. What, then, shall we do? You investigate the story of the pelvis very carefully, and you ask yourself if she is telling you the truth. Is her suffering as serious as she makes it out to be? If she be a genuine sufferer, she will declare herself ready to go through anything to get rid of her trouble. If she accepts your advice willingly, then you bring her within the category of cases in which you are not only justified, but it is your bounden duty, to explore the pelvis and see what really is the matter, and, if necessary, to give her the relief that only a surgical operation can afford. I could give many instances in which the justification of an exploratory incision will depend upon the individual details of the case as determining the class to which it belongs.

Let me pass in review the group of tumors, for that is the one which most attracts public attention at this moment. The battle, indeed, is one which is being fought at present in the case of tumors. Victory has been decided by the mistakes of our opponents. Thus, without mentioning any names, we can point to those of the opposite school who assert in the first place that they make no mistakes in the diagnosis of tumors, and they always usefully begin with the object of preventing an accurate knowledge of the actual condition being obtained. Suppose it was true that they knew at the beginning what the nature of the tumor was, there is always this source of error, that they refuse to operate upon tumors by raising a wrong diagnosis in cases which ought to be operated upon, and the result is greatly to the confusion of those who had refused to operate. These cases are operated upon now almost daily. There were men who say, "We will not operate upon tumors of the uterus after the age of forty!" When a woman comes to them with one or other of these conditions, they refuse to operate. Then she is seen by a younger man. She is twice the size by then, and, what was probably not apparent before, viz., fluctuation, can be detected. The younger man says this is a parovarian tumor, and it is very easy and not at all dangerous to take out. The first man has to confess his mistake. Now, this was not the older man's fault nor the younger man's merit. If *A* had been wiser in his generation, he would have recognized that the patient is a fat woman, in whom the appearance of the primitive sign of fluctuation can easily be mistaken or overlooked, for no hand has ever yet acquired the skill to detect moderate fluctuation through an abdominal wall two or three inches thick. When the tumor has grown, and fluctuation is very much easier, the diagnosis is by no means difficult. Had *B* seen the case first, he would not have been able to say what it was, but he would have concluded that it would be safer to look and see, and he would have advised an exploratory incision. Then the mistake would not have occurred.

I would like to point out that these mistakes ought to be diminished in number, and exploratory incisions afford the means of so doing, for they obviate the risk of allowing a patient to remain for years under the cloud inseparable from the belief that she is suffering from an incurable disease. Such a course of events cannot but prove very damaging to *A*, and lastly it is very damaging to our profession. It should, therefore, always be our object to avoid such errors.

Having laid down the lines upon which I carry out my exploratory incisions, let me show you how it is done. It may be useful to have the minutest details before you, especially by one who has had great success, and who has always striven after the greatest simplicity. Visitors always remark that my operations are simpler far than anything they have ever seen before, particularly continental operators, who have a very complicated system. Simplicity is as efficacious as it is inexpensive. I will first show you the instruments I use. Here are two pairs of forceps which cover all the ground, and I have a dummy here which will serve to put you up to the "wrinkles" of the operation. First, as to the preparations: I never operate upon a patient, if I can help it, unless she has been under my care for at least forty eight hours. I train my own nurses. The ordinary hospital-trained nurses are a nuisance. I like to have absolute control over my patients, and this is not possible with an ordinary-trained nurse who has been under some other surgeon, for she is probably imbued with his

ideas and takes every opportunity of unfavorably comparing your method of proceeding with that of the man who had the training of her, and she has ideas of her own which obtrude themselves when least wanted. Then I place the patient upon a narrow bed with a spring mattress, and give her a slight laxative on the evening before the operation, an enema in the morning. This gives the intestines a rest for three or four days. Then she is put upon a narrow table to be operated upon; the anæsthetic we use is a mixture of two parts of ether and one of chloroform for patients under forty-five, and for patients over forty-five I increase the proportion of chloroform. If over sixty, then chloroform alone. My confidence in these proportions is based upon clinical experience. I am quite convinced that ether is a far more dangerous anæsthetic than chloroform, on account of the bronchial irritation and of retching and struggling to which it gives rise. If chloroform does kill a patient, it does so at once, and there is an inquest and a lot of trouble; whereas, if the patient dies a week later from bronchitis or some other complication, after ether, the death is not attributed to its proper cause.

On the whole, therefore, I have come to the conclusion that a combination of the two is best. The anæsthesia is a matter of great importance, and the anæsthetist is bound to attend to his patient, and do nothing else. I have another assistant who is not to open his mouth, and whose only duty is to do what he is told, and that, as a rule, is very little. Then the instruments are laid out on the table, and every care must be taken to insure that they are perfectly clean. I always keep the instruments in trays, under water, in order that the blood, etc., may be washed off, and so that I do not run the risk of introducing dead matter into the wound, such as coagulated blood. It is the nidus for germs that is to be feared, and not the germs themselves, and your every care should be to have nothing about that could serve as a soil for their growth and development. I use plain water, no kind of chemical compound. The sponges are always a source of considerable anxiety, and I have an intelligent person who does nothing else but clean my sponges. She washes them, wrings them out, and dries them and keeps them, for so long as they are dry they are incapable of decomposition. For the purposes of the operation I count them myself, and then place them in a basin that is perfectly clean and pour on tap-water. It is very important to count the sponges, and you cannot be too careful or take too many precautions, for even in spite of every conceivable precaution you will sometimes have trouble. For instance, in one case my assistant tore a sponge in two. That made thirteen instead of twelve, and I did not know the fact. I always count them myself, and then one nurse is told off to see after the sponges, and she is responsible to see that these twelve sponges are outside the woman at the close of the operation. None but myself and this nurse touch the sponges, and this is very important. All these precautions may seem foolish to you, but if you saw the kinds of accidents that happen, you would agree with me that no detail is unimportant enough to escape attention. Now, as to the operation: Make your incision, two to four or five inches in length, through the skin down to the tendon. Then cut through the tendon with a touch of the knife until you see the margin of the rectus muscle, then seize the sheath and slit it open. I have a method of opening the peritoneum which I shall be enabled to show you on the dummy better than by words. You take hold of it with one pair of forceps, which you hand to an assistant to hold. Then seize it afresh with a second pair of forceps, at about the same spot, and apply sufficient traction to put the peritoneum gently on the stretch. It is thus raised above the subjacent structures, and a slight touch with the knife will suffice to make an opening. I complete the opening by passing the finger into the opening, and nicking the membrane with the knife. As soon as the first opening is made, the intestines shrink away, and there is little danger of their getting wounded with the most ordinary care. The incision should always be made in the middle line, unless you expect the tumor is eccentric. I divide incisions into eccentric and centric. Centric incisions comprise those which deal with tumors presenting under ordinary conditions—pelvic tumors, ovarian tumors, and uterine tumors, etc. Eccentric abdominal incisions are such as you are obliged to make leaving the point of election and going elsewhere. There can be no absolute rule. Directly you get into the realm of eccentric cases you must deal with each case upon its own merits. Attack your tumor at its most presenting point, for it is growing in the direction of the least resistance. In all probability the point of resistance will be influenced by the great bulk of the tumor, that is to say, the bulk will be found in the axis of the direction of growth. The site at which it will present will be the point at which least tissues will be found, and, therefore, all the less to cut through. Any attempt, therefore, to lay down any law binding you to any one form of incision, is to expose yourself to error. Attack your tumor, whatever it is, at the most prominent part. The kidney in one place is best attacked in the loin, and in others from the front.

Ten days ago a kidney was removed by me through the linea alba. Had I known what it was, I should have made a most fearful hash of the case, for I should have cut down on the left kidney, whereas it was the right kidney that was diseased. A young lady was sent to me with distended gall-bladder, which I mistook for a parovarian tumor. I could never have got the gall-stone out had I made the ordinary incision. In the centric incision the hemorrhage is very little. The instrument next in importance and order after the knife is the scissor artery-forceps. I have a pair of Koeberle's forceps given to me by Koeberle himself in 1870, long before the instrument was known anywhere in this country, and the credit of the invention ought to be given entirely to him. The branches are made so as to exercise a powerful compression, and the handles are arranged so that you can twist the instrument easily. Ordinary retractors are sources of great trouble, and all kinds of special apparatus have been invented without finding anything so good as the ordinary forceps. The more you diminish the number of instruments, the easier they are to keep clean and your assistants can understand them. Forceps, therefore, are to be used as retractors. Closure of the wound is to be effected with needles, with common Chinese silk. Silk is an entirely animal structure, but you must take care to have it pure. It ought to be entirely soluble in caustic potash; if it leaves any residue, then there is some cotton mixed with it. I have examined the pedicles of ovarian tumors years after the operation, and there was not a trace of the ligatures. Occasionally, however, sinuses will form from the death of the ligature. I use a straight needle with a bayonet point, as less likely to cut structures in contact with it. After the operation you may have to adopt the principle of draining, and there is only one name to be attached to the principle of abdominal draining. Koeberle gave me the original drainage-tube in 1864. He used them for years before he could induce anyone else to use them. Now as to the conditions under which drainage is desirable—where you have a fear of hemorrhage, in the case of a rotten pedicle, for example. A few days ago I removed an ovarian tumor from a lady who had been confined only a few days before. The pedicle was immensely influenced in its character by the changes that were going on in the uterus, and it was very brittle and the ligature cut through. There I was very anxious to obtain early information of any possible hemorrhage. I simply dropped the pedicle back and put in a drainage-tube, telling the nurse to let me know if there was any oozing. Had there been any hemorrhage, I should thus have known it at once, and that is important, for death from hemorrhage in these cases is not altogether unknown.

The drainage-tube has reduced our mortality from ten to fifteen per cent. The older the patient, the more need

she has of a drainage-tube. I wash out the abdomen with a stream of water from a bucket; and by means of a strong current I get rid of all the rubbish from the crannies and crevices. Even oozing from adhesions may be stopped by a current of water like this. Then as to the after-treatment; the patient is put to bed, not allowed to see anybody, and the great bulk of cases recover without any great difficulty. Hysterectomy cases are always very troublesome. The method of the patient's recovery is troublesome. They will sometimes go wrong five or six weeks after the operation is apparently successful. The after-treatment is conducted practically by the nurses. For the first twenty-four hours the patient is not allowed to swallow anything at all, except perhaps a little warm water. The practice of giving ice to suck is a bad one, for the effect is to make the patient more thirsty than before, and to make her mouth sore. Vomiting is a very serious complication after an abdominal section, but the best way to avoid vomiting is not to give the patients anything they can vomit. They may have a teaspoonful of warm water from time to time to rinse out the mouth in order to relieve the thirst, and that is all. It is a little trying for them, but if you have a deprivation of fluids in the stomach, and a tendency to effusion of fluid into the peritoneum, my belief is that the deprivation of fluids in the stomach favors the absorption of the effusion in the peritoneum. The second day I give a few tablespoonfuls of milk and soda. The third day is the critical day, and the first indication of the secondary dangers is distention of the epigastrium, suggestive of peritonitis. What you have to do, then, is to give the patient a small saline purge and a turpentine enema, and you will enable her to pass flatus. I do not care a bit for anything save distention, and I never have any trouble if it is treated at once in this way. I never see a patient more than once a day if I can help it. Taking the pulse and temperature records are of great importance. In the course of my experience many little wrinkles have occurred to me which may sound absurd—for instance, I never allow nurses to wear watches with second hands, but I give them a little sand-glass which runs for a minute, so that there is no margin for error. I take the temperature in centigrade, so that the friends of the patient may not understand it. The temperature in abdominal surgery is a matter of very secondary importance, the pulse being our great guide, and whenever it rises to 120 a minute, then there is reason to be anxious. Temperature rise alone has no value as an indication of danger, but the safest guide of all is the expression of the face. An anxious expression keeps me on the tenter-hooks, and a woman who will not keep quiet after an operation, but will go on chattering, is almost sure to die.

TUBERCULOSIS OF THE BLADDER.

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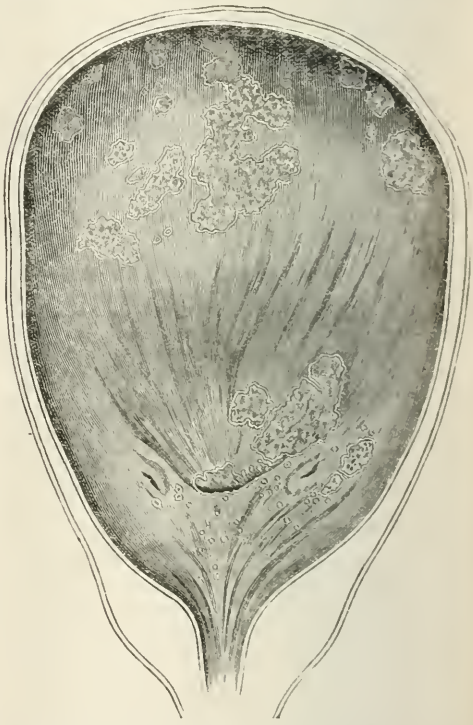
NOTWITHSTANDING recent statements to the contrary, we are led by close clinical observation and pathological study to the conclusion that cysto-tuberculosis is by no means as rare an affection as we were led to believe. The almost unanimity with which writers speak of this as a very exceptional disease is accounted for in the main by the following facts: First, The difficulty we experience in some instances in localizing the disease. Second. Other organs are not infrequently involved, whose prominence and severity of symptoms mask the bladder ailment sufficiently to lead us to overlook it or misinterpret its meaning. Third, The bladder is seldom examined after death when there were no symptoms to call especial attention to it and the immediate cause of death points to some vital organ; and, Fourth, That attention has not been particularly directed to the pathogenic factor; we hear that the bladder was "ulcerated," but no examination was made for any micro-organisms as the cause of the ulceration. All agree that the disease is much more frequent in the male than in the female. It is said that sexual intercourse with a man suffering from genital tuberculosis is capable of exciting a tubercular endometritis, and it has been produced experimentally in rabbits by the injection of bacilli into the vagina. Of the instances recorded of primary tuberculosis of the female reproductive organs, a peculiar and a very noticeable fact is that it has been confined, in most cases, to the genital system, and that it extends very exceptionally into the urinary passages. According to Erns. who has made a collection of twenty-five cases. but one occurred in the female. This is undoubtedly because of the more perfect separation of the two sets of organs, the reproductive and the urinary, in the female than in the male. In the latter, extension of the disease occurs by continuity of surface from the reproductive to the urinary organs. But tuberculosis of the bladder does not necessarily follow



the invasion of bacilli into this viscus, for we frequently find, in tuberculous kidney, the urine charged with them and yet the bladder escapes infection. Not until this viscus has acquired a predisposition, or has, in consequence of some pre-existing pathological process become less resisting to the invasion of the bacilli, are its structures rendered vulnerable to them. It may affect all ages from the earliest childhood to old age (from three to ninety-seven years); but preferably, it is a disease of the middle period of life. It is said that tubercular disease of the lung is an exception with the pathological process as occurring conjointly in the genito-urinary organs; but, far from this being the case, the autopsy reveals tubercular infiltration in the lungs in the greater number of instances. There is a crucial divergence of opinion as regards the frequency in which the bladder is primarily or secondarily involved. According to some, the bladder is more frequently affected primarily. According to the observation of others, it is more frequently involved sec-

ondarily. Those who believe in the latter mode of infection are again divided into those who believe in the transmission of the disease to the bladder by a descending process from the kidney and others who regard the extension of the disease by an ascending process from the testes, which, according to them, are primarily the seat of disease, and this is followed by tuberculosis of the vas deferens, the vesiculæ seminales, the prostate, the bladder, and it may reach, viewed by them, as high as the kidney. Now, I can understand an ascending process as far as the bladder, but I must confess to being somewhat sceptical on the matter of the micro-organisms extending higher. In the case which I herewith present I asked myself the question, If the bladder was involved primarily, why was the extension of the process limited to one side, and why did it not ascend both ureters alike? The disease in the bladder was extensive and the duration sufficiently prolonged, but neither of the ureters was affected. If the micro-organisms spread upward from the bladder to the kidney by continuity of surface, we should expect the lower part of the ureter to be involved in the pathogenic factor, as the upper part of the ureter is affected in disease of the kidney. The lower part of the ureter may be involved in renal disease, but when the kidneys are healthy the extension of the process from the bladder into the ureters must be very exceptional.

I do not now remember to have found in my observation a single unequivocal instance in which there was an extension from the bladder into the ureters, although I have records of cases in which the disease—the kidney being not involved—has spread by continuity of surface from the bladder into both vasa deferentia a short distance. Then it is difficult to conceive how the bacilli can overcome the impediment to their progress upward by the constant flow of healthy urine from above. In the extension of the disease through the medium of the circulation, the question arises, What influence, if any, has an absorbing surface on the one hand, and a secreting or an excreting surface on the other, in the absorption into, or the elimination from, the blood of the pathogenic germs? In the lungs of the adult carbonaceous particles are always found which make their way by inhalation to the air-cells, and then penetrate through them mechanically to the surface of the pulmonary tissue, especially to the summit of the lungs, and, as do the bacilli, make their way thence into lymphatic vessels to the bronchial glands, and into the circulation. And the kidneys are frequently the seat of disease in an advanced and aggravated form, while in other organs that may be affected the process is apparently just beginning. The point that would militate against the assumption that the kidneys were the emunctories of the bacilli is the fact that the disposition of the disease is often unilateral; but may this not be accounted for by the fact that the arterial distribution, the anatomy of the two organs, may not be alike favorable for their elimination. The statement that the affecting process was "limited to an area supplied by a single branch of the renal artery of one kidney" lends confirmatory evidence to this view. And the greater resisting power of one organ is not to be ignored.' Several organs of the genito-urinary system may be simultaneously affected, independently of each other, and there may not be, or there may be, concomitant tubercular formations in other parts of the body—the lungs, the meninges, the bones, the peritonæum, the lymphatic glands, etc. Thus, I have before me the necropsy of a case with what was supposed to be an old tubercular disease of one kidney; the other kidney was healthy, as was the bladder, but the prostate was extensively involved; tubercular deposits were also manifest in the lungs. Now and then we find the urinary organs alone affected, and when this is the case, one or both kidneys are the seat of the primary disease; the kidney and bladder are not infrequently involved, but cysto-tuberculosis, *per se*, if it ever occurs, is very exceptional.

It is a very interesting experience of Socin that a man may have tuberculosis of the urethra and prostate for years without involving the bladder. It is often a nice point to determine where the primary manifestation developed itself. We cannot always judge by the extent or the apparent duration of the lesion, as the process may progress more or less rapidly in the one or the other organ according to circumstances.

We see this illustrated in a measure in the specimen. Although the microbes had their starting-point presumably at the bas-fond, they made more rapid progress at the summit of the bladder, where the ulcerations are large and many and where no miliary nodules are discernible. The tubercular infiltration occurs at first as minute granulations or elevations, and to the unaided sight they appear as grayish or yellowish nodules, of a soft, cheesy, or putty-like consistence. It is not till later that they become confluent, soften, and break through the mucous membrane in the form of ulcerations, with irregular, raised margins, somewhat undermined, and varying in depth from a superficial erosion to the involvement of all the coats of the bladder, with perforation, as happened in one of my cases—in a female, by the way. Sometimes the various stages, the nodular and the ulcerative period, are found in the same bladder. The tubercular process has a predilection for the trigone and the vicinity of the vesical neck, because the bacilli tend to gravitate in the accumulated urine, and here penetrate the submucous tissue of the bladder. The specimen I present herewith shows large ulcerations all over the vertex of the bladders and several on the margins of the trigone. There are numerous miliary nodules and one or two small points of ulceration commencing in this region.

The diagnosis of tubercular disease is often made with extreme difficulty. There are no rational or physical symptoms which are to be relied upon as distinctive of this affection; for while occasionally palpation per rectum will make out the infiltration, we arrive at data often by the method of exclusion and inductive reasoning. If there is no obstructive disease to the urinary outlet, no calculus, renal derangement, or other assignable cause for the existing vesical irritability, or hæmaturia, but other organs are affected with tubercles, the lungs, the testes, etc., there is strong presumptive evidence that we have a case of tubercular cystitis to contend with. As an element of diagnosis we must elicit any hereditary predisposition on the part of the patient. As to the constancy of the pathogenic micro-organisms in the urine, their absence is not a convincing proof of the non existence of the disease. Cases will occur in which no tubercular bacilli can be discovered in the urine, and yet, upon the necropsy, find extensive infiltration of tubercular nodules at some part of the urinary tract, and thus the true nature of the case is often not made out until after death. In the earlier stages, before the ulcerative period has arrived, the urine may be entirely free from bacilli. Nor must the occasional isolated appearance of a bacillus be regarded as indicative of disease; for these have been found in the normal secretions of the urethra, and are easily mistaken for those of tubercle. But their presence repeatedly in several samples of urine is pathognomonic of tubercular disease of the urinary tract. According to Tavel, the tubercular bacilli always gravitate to the bottom, being as heavy as pus corpuscles, while other bacilli that may exist in the urine float in the water and are poured off with the supernatant fluid. He further says that they never occur in the bladder singly, but always in masses. Of course we will avail ourselves of the light, in a double sense, which the cystoscope will afford in determining the situation and extent of the process in the male. In the female my vesical dilator and speculum, will throw the field so clearly before our vision as to leave little to be desired. In the use of the cystoscope it is necessary to manipulate with the greatest care and delicacy, for in the ulcerative period especially, when these are located in the vicinity of the vesical neck, there is danger of exciting a hemorrhage, which will ob-

scure the field of vision. The life history of the tubercle bacillus is, as a rule, progressive but slow. It does not call forth any disturbance for a long time after the germ has implanted itself. The course of the disease depends upon whether other organs are similarly affected. When it is localized to the bladder it is surprising how long this viscus will tolerate the micro-organism. The symptoms can last for years (fifteen or twenty). The disease may be latent for a long time, without symptoms referable to the bladder, until other organs, especially the lungs or kidneys, light up a destructive process. The first of the rational symptoms is some disturbance in the function of the bladder, but we must remember that we may have tubercular disease of the kidney with aggravating vesical symptoms, and yet the bladder remain absolutely free from disease. And again, we may have extensive tubercular disease of the bladder with no symptoms whatever referable to the organ itself. But frequent micturition, with a sense of discomfort, which may be one of actual pain or a burning sensation, obtains, sooner or later, in by far the larger number of cases, especially if the lesions are in the vicinity of the vesical neck; the pain may then be very acute, lancinating in character, and referred to the glans penis at the end of micturition. This is in accordance with the well-known physiological law that an impression made upon a sensory nerve anywhere in its course to the sensorium is referred to its peripheral termination.

Of course the pain does not originate in the glans penis. The source of irritation may be in the bladder and transmitted centripetally to the brain, where it is interpreted as coming from the nerve-endings. We know that a mutual nervous sympathy exists between the lower urinary tract and the kidney, as there is between the kidney and the lower urinary tract, but the greater the irritability of the bladder, notably its neck, when reflexly disturbed, is to be accounted for in the preponderance of cerebro-spinal nerves which supply this part of the viscus. In some instances there may be incontinence—the patient is frequently overtaken before he can comply with the behests of nature. In others, spasm is noted—a sudden stoppage of the stream, not unlike that observed in calculus. This may go on until, ultimately, he has retention of urine in consequence of spasmodic contraction of the sphincter. Tuberculosis of the bladder, involving the orifice of one of the ureters, may cause an obstruction sufficient to produce on that side dilatation of the ureter and hydronephrosis. The urine is at first acid and cloudy, the turbidity being due, as in ordinary cystitis, to the presence of mucus and pus. It may undergo ammoniacal decomposition, when it is decidedly viscid. Occasionally there are shreds of tissue, blood-corpuscles, etc. Now and then the ulcerations will be coated over with a phosphatic deposit suggestive of calculus, which must be negatived by physical examination. But the manipulation must always be very gentle, as the least traumatism of the mucous surface may convert a latent disease into one of great activity. The next most characteristic symptom is hæmaturia; although this may be the initial sign of the disturbance, even for some time preceding the irritability of the bladder, it may be entirely absent throughout the course of the complaint. About one-third of the patients tell us that they have never micturated bloody urine. When it occurs it appears as a parenchymatous hemorrhage, the quantity of the blood lost being small, usually but a few drops, and that, as a rule, at the end of micturition; rarely are coagula passed. The hæmaturia is usually intermittent. It may disappear for weeks and reappear again without any assignable cause, often occurring when the patient is at rest and in bed. All the symptoms may be variable in duration, subject to remissions and exacerbations before softening and ulceration takes place; there is but a slight manifestation of vesical irritability. But as soon as this period of inactivity is over and the ulcerative stage has begun, the mucous surface undergoes rapid destructive metamorphosis, and the symptoms become well pronounced.

As for treatment, irrigation of the bladder can, in the main, but wash out the products of inflammation, and thus may retard the progress of the case; for whatever influence is exerted upon the former is more or less directed upon the latter. It has been said that creasote exerts a specific influence on tubercle bacilli; that they cease to develop in its presence. But, as a rule, this treatment is not well borne. Instruments should, as much as possible, be avoided, because the little good that can be hoped for from such local treatment is more than counterbalanced by the danger of producing some traumatism to the vesical mucous membrane, thereby bringing into full efflorescence a latent disease, or, in other words, lighting up an acute attack from an existing chronic process. Whenever it is practicable the sphincter should be overcome by means of hydrostatic pressure; with the aid of a fountain syringe and a short tube in the urethra, the bladder can be washed out without the introduction of a catheter into that viscus.

There are those unfortunates in whom we can but hope to make the downward course of life more endurable. The best palliative measure is one that will give the bladder as little to do as possible, and this will be effected by a suprapubic cystotomy or by means of drainage through the perinæum. Even though the vesical symptoms are due entirely to nephritic disease, it is astonishing how much relief is obtained in some cases from an opening in the bladder. Suprapubic cystotomy has the advantage that we not alone afford the patient relief, but can attempt radical measures should the nature of his case be such as to require them. In women the dilatation of the urethra and vesical neck has afforded prompt relief, and I know of no means of effecting this so satisfactorily and safely as with Stein's[1] urethral dilator and speculum. Kolpo-cystotomy has been done in some cases, but it has nothing to commend it over the suprapubic operation, and we cannot divest ourselves of the fear of affecting the generative organs.

Radical operations have for their object the destruction and removal of the pathogenic germs. Our French and German brethren have anticipated us in this direction. Reverdin,[2] after a suprapubic cystotomy, introduced into the bladder a small electric lamp of the size of an ordinary lead-pencil, by means of which the smallest lesions on the vesical mucous membrane were distinctly seen. These he scraped away with the curette and cauterized the scraped points with the thermo-cautery. Bardenheuer,[3] a little more heroic, excised the entire mucous membrane from the bladder of three tubercular patients, with encouraging results to a repetition of the operation.

We learn from the experience of Schatz,[4] in which he excised the mucous membrane, that the disease recurred after some months, and that some of the smaller nodules may easily escape detection and remain as new points of infection.

Necropsy.—Man, aged twenty-seven. Right lung adherent, otherwise normal; left lung, at apex tubercular nodules, varying in size from miliary points to that of small hazel-nuts. Heart, normal. Liver contained a large number of tubercles, with foci of suppuration. The mucous membrane of the intestines was intensely injected; several small ulcers in lower portion of ileum. Throughout the mucous membrane of the ileum, near the blood-vessels, are thousands of miliary nodules. A large number of points over the cortex and at the base of the brain. Old pachymeningitis on the left side; miliary tubercles under capsule and in the secreting substance of one kidney. There was a similar deposit in the testes and vesiculæ seminales. The bladder shows numerous tubercular ulcerations, especially at the summit of the organ, though there are some at the margin of the trigone near the ureter. They are superficial, circular, with ragged edges, varying in size;

[1] Tumors of the Bladder, 1881.
[2] Annales des Maladies Organiques Genito-urinaires, May, 1889.
[3] Wiener Med. Presse, November 27 and 28, 1889.
[4] Centralblatt für Gynäkologie, 1886, p. 464.

many have become confluent. There are some miliary points in the trigone that have not yet ulcerated. There must have been in the urine evidences of the destructive process going on in the bladder—shreds of tissue, tubercular material, bacilli, etc. But, with these, he had no symptoms to direct attention to his bladder. At least he did not complain of vesical symptoms, which may be accounted for by the fact that the vesical neck was not particularly involved. The pathological changes that accompany the tubercular infiltration are a considerable thickening of the mucous membrane and the other coats of the bladder, a veritable concentric hypertrophy, suggesting an undue functional activity on the part of the bladder, notwithstanding its absence from the history of the case.

THE PHONOGRAPH AS AN ACOUMETER, WITH THE SUGGESTION OF A STANDARD SCALE FOR TESTING THE ACUTENESS OF HEARING.[1]

By C. W. STIMSON, M.D.,

NEW YORK.

MR. PRESIDENT AND GENTLEMEN: That which I have the honor and pleasure to present to you this evening is a new method and a new application of a very modern instrument. In trespassing on your time for such a purpose one should take the greatest pains that all hypotheses are correct. Knowing my fallibility it is with considerable apprehension that I venture to address you. Trusting that you will pardon my shortcomings, I will explain the theory of my subject, endeavor to prove its practicability, and show you an instrument for its use. The title of this paper is, "The Phonograph as an Acoumeter, with the Suggestion of a Standard Scale for Testing the Acuteness of Hearing." Before proceeding to its consideration it will, I think, be proper for us to estimate the need of such a scale or instrument. There is, as you all know, at present no means by which two men, at different times and independent of each other, can invariably arrive at the same conclusion as to the acuteness of hearing in the third party.

There is no way by which we can graphically express a person's appreciation of sound. A person's own statement is our only measure of his improvement. The only universal test for the hearing is a person's ability to appreciate the tick of a watch. This is inexact and unscientific, if it has no other objections; practical aurists know of many. It was to supply a need intimated by these statements that I undertook to make a scale of sound, the method of constructing which I have the honor to explain to you. We must first briefly consider with what we have to deal. Ganot defines sound as a sensation excited in the ear. As it is a sensation we can never give it an exact mathematical value. Any measure that we may suggest must always be comparative. As with force we assume the foot-pound, so with the intensity of sound we may take a standard. Professor Tyndall tells us that we each have a lute of more than three thousand strings. No better description can be given of the compass of the ear than this. A detailed account of the minute anatomy of the ear to this audience would be superfluous. I trust that I may be pardoned, however, if I call your attention to its arrangement from a mechanical point of view. We have a cavity, the drum, approximating somewhat to a cylinder. The extremities are closed by tense membranes. Extending from one to the other is a series of levers. This arrangement is almost perfect, from the fact that its inertia is next to nothing

The Eustachian tube equalizes the internal pressure. One membrane of the drum is in contact with the labyrinth, on the surface of which is the apparatus for changing force into sensation. Corti's organ, with its three thousand strings, is brought into relationship with the system of levers by the most perfect of all contacts, a fluid medium. This organ is so tuned that it will transform every disturbance of this liquid into sensation, within certain limits. The mechanism of hearing is, then, the passage of mechanical force to a series of solid levers, from them to a liquid medium which surrounds an organ capable of recording all of its movements. From this we may say that a person's hearing is acute or dull, according to the small amount of force that his ear will conduct and register. My object has been in the scale to vary that force according to a mathematical standard. It must necessarily be only approximate. We know that the force exerted by a sound-wave varies in a regular ratio according to the distance of its source from the ear. The law reads thus, "In an unconfined uniform medium the intensity of sound is inversely as the square of the distance." Having this in mind, suppose we should cause a sonorous body, by the application of a certain force, to give forth a sound at a certain distance, twenty feet for instance. Let us then, by the use of the same body and same force, produce the sound at 4 $\frac{4\,8}{1\,0\,0}$ feet. The intensity of the first sound would be to the intensity of the second inversely as the square of the distances. In this case as one is to twenty. We might then divide the twenty feet into twenty parts according to this formula. If we should produce the sound at each of these distances we would have a series, each number of which would differ in intensity from the intensity of its neighbor by one-twentieth of the first's intensity. Should we now find that the ordinary ear could just appreciate the sound when produced at twenty feet, we might take that as the standard for normal hearing. If an individual could only hear the sound when produced at 19 $\frac{5}{1\,0}$ feet, we could express his hearing as $\frac{1\,9}{2\,0}$, providing the normal hearing was called $\frac{2\,0}{2\,0}$. These sounds differ in intensity by one-twentieth of the first sound's intensity. We could do the same with each sound of the series. For ordinary use this would be impracticable, because of the demands of the law of inverse squares. We must adapt it to ordinary surroundings. The intensity of sound can be compared, according to Tyndall, to the mechanical effects produced by a cannon-ball striking a target. The work will be proportional to the square of the velocity, or directly as the weight. The sound-waves being of the same length their intensities will be directly as their initial force. If we produce a sound by a certain force, a blow for instance, the sound-wave will be propagated a certain distance. If we increase the force it will travel a certain distance farther. At that greater distance it will have the same intensity as the first sound at the shorter distance. If heard at the same place one will be proportionately louder than the other. It was on these lines that the scale was constructed. I wished to deal with comparative intensities alone. The other qualities of sound were as near as possible kept constant; it is my intention to consider their variations in a future article. By experiment it was found that a certain sound, when produced at a certain distance and recorded on the phonograph cylinder, if reproduced could be just heard by the average untrained ear. This was taken as a unit, and the other sounds were made to vary from it in intensity by one-, two-, or three-twentieths according to the number of the stroke. The method of procedure was this: On a quiet day, I took my instrument out of doors where the surroundings fulfilled as near as possible the conditions required by the law of inverse squares. A sound was produced at a distance so great that it could just be appreciated when rendered by the phonograph. That distance was divided into twenty parts according to the above law. The sound was then produced at each of these divisions. We thus had a scale of sound, the strokes of which differed from one another by one-twentieth of the intensity of the first. I then, by experiment, found how much the force would have to be increased to make the intensity of the sound when produced at twenty feet, for instance, equal to the intensity when produced at 4 $\frac{4\,8}{1\,0\,0}$ feet. It then followed that if both were produced

[1] Read before the Society of the Alumni of Charity Hospital, April 8, 1890.

at the same distance, but with the corresponding difference in force, they would still bear the same relationship. This was repeated for each distance until the force for each intensity was determined. The sonorous body used was an ordinary hand-bell of the following dimensions: Length, 7 ctm.; diameter at mouth, 10 ctm.; at top, 4 $\frac{5}{10}$ ctm.; half-way between these, 5 $\frac{5}{10}$ ctm. The fundamental note of the bell is F natural.

My reasons for selecting this form of sounding body were mainly these: I desired to get sound alone. No advantage could accrue from having musical qualities present. Professor Helmholtz, in his most complete work on tones, states that bells have no real harmonious relations with music. Last, and perhaps the most influential, the fact that a bell gives a sharp, clear note. One is perfectly sure that he does or does not hear it. A fifty-gramme spherical weight was allowed to fall 20 ctm., and to strike the bell at a point 1 ctm. from the edge, thus producing the loudest sound of the scale. The fall was then decreased 1 ctm. for each stroke. They were all produced at a distance of ten feet from the machine. The phonograph is so common at the present time that any description would be out of place. The sounds were received into this instrument through a horn made of tin, 70 ctm. in length. Its greatest diameter is 30 ctm., its smallest 2. The cylinder was making one hundred and fifty revolutions per minute. For reproducing the scale two flexible tubes extend from the ears to a three-way stopcock; this connects by a single pipe with what is known as a 1.8-way tube. This last is of metal, its diameter 1 $\frac{8}{10}$ ctm. It extends around the machine. One end is closed, the other is attached to the reproducer. This arrangement, which, from the description, appears a little complicated, is really very simple. By its use the noise made by the instrument in action is brought to the lowest degree of prominence. The diameter of the ear-tube is 7 mm.; its length 90 ctm. A patient is informed that when the tubes are in his ears he will hear a bell strike. He is requested to count aloud the number of strokes. After placing him in position the operator notices in which direction the stopcock is turned and starts the machine. With a second pair of tubes one is able to know if the counting is done at the proper moment. If it is the right ear and twenty strokes are counted we can express the acuteness of its hearing by R. $\frac{20}{20}$. If the left ear and only ten strokes are named we write L. $\frac{10}{20}$. This, of course, can be repeated at will. The time at my disposal has allowed me to suggest only the essentials of this method. Should the subject be of sufficient interest to anyone, I shall be pleased at any time to explain the details. This instrument is like all other machines — the character of the work that it will do depends on the skill of the operator. There are very few essential points in its management; these learned, practice alone is necessary to approximate to perfect results.

68 West Fortieth Street.

How Dom Pedro Built a Hospital.—The following story of how the ex-Emperor of Brazil raised the money for a charitable institution is told on the authority of Dr. Stellwag, of Vienna: It seems that Dom Pedro longed to have a big hospital at Rio, but that he lacked the money wherewith to build it, and the wealthy people could not be induced to subscribe. Then an idea came to him, as it had to the German Emperor Joseph, a century ago. He began to grant life peerages to all persons who were willing to subscribe good round sums toward the hospital. The patents of count, viscount, and baron were not hereditary, and if the children wished to inherit their father's title they had to pay for it afresh. Brazil became thereby peopled with nobles, and the hospital was built on a grand scale. When it was completed, Dom Pedro had the following inscription placed on its gates: "Vanitas Humana Humanæ Miseriæ" ("Human Vanity to Human Misery.").

BACTERIOLOGICAL EXAMINATION AS AN AID TO CLINICAL DIAGNOSIS.[1]

By LOUIS HEITZMANN, M.D.,

NEW YORK.

On March 24, 1882, in the Physiological Society of Berlin, Robert Koch first announced his now world-famous discovery of the real cause of tuberculosis. Long before him, Villemin, in 1865, and, later on, Cohnheim had proven the infectious nature of this disease by producing artificial tuberculosis in animals by means of vaccinating with tuberculous material, but Koch was the first to show that the bacillus of tuberculosis alone would cause the disease. As is well known, this discovery, found correct by a large number of the best investigators, has revolutionized the whole science of medicine. Before this time a diagnosis of tuberculosis could, during the life of the patient, be made only from the clinical history and physical examination, and how often a wrong diagnosis was made we can readily imagine.

In the more pronounced cases the diagnosis was, of course, easy enough, but in the commencing stage it was often not possible, whereas if a correct diagnosis could have been made the patient's life might in many cases have been prolonged for a number of years by at once instituting the necessary hygienic and remedial measures. Often enough physicians erred in the opposite direction. At the present day, however, no patient, no matter what the constitutional symptoms may be, can positively be called tuberculous unless the bacilli of tuberculosis have unquestionably been found, and whenever, in a given case, these bacilli can be shown to be present, there tuberculosis most certainly exists.

The fact is, I believe, at present admitted by everyone, and all attempts to prove its non-infallibility have signally failed. It is certainly not always easy to find the bacilli, but if we only search long and thoroughly enough we will discover them in every case of tuberculosis.

This being a matter of such extreme importance, the question naturally comes up, which is the best and most certain method, especially for the general practitioner, of bringing the bacilli into view. The number of different methods that have at one time or another appeared in the medical journals is already legion, and probably each one is the best for its respective author, but if tried by one not well versed in the technic of staining the result will, as a general rule, be anything but satisfactory. We have as yet no method which will compare in usefulness with the old Koch-Ehrlich method. By those who have introduced rapid staining processes it is claimed that this method is not only tedious, but too difficult for the general practitioner, who will never succeed with it, but will succeed with their process. As a matter of fact this is by no means the case, since every method, no matter how simple it is claimed to be, must be learnt, and when the technic of it is once mastered it will give better results than any other.

One of the chief causes of failure is undoubtedly to be looked for in the coloring matter itself, which, if not well prepared, will cause all the mischief. If the coloring matter is conscientiously prepared by the examiner himself, certainly the only sure way, failures will never result.

In using the Koch Ehrlich process the first step is the preparation of a concentrated alcoholic solution of fuchsin, the coloring matter most frequently used. When once made this can be kept for a number of months and is always ready for use. It is prepared by taking one part of fuchsin in substance and adding to it five parts of absolute alcohol, which will, in a few minutes, give a solution as nearly concentrated as is necessary. The next step would be the making of the aniline water, which is made by thoroughly shaking one part of aniline oil with twenty parts of distilled water, and, after allowing to stand for a few minutes, filtering through a double layer

[1] Read before the Brooklyn Medical Microscopical Society, February 5, 1890.

of filtering-paper. If we now slowly add our alcoholic solution of fuchsin to the aniline water until a shining film appears at the top, which does not disappear on shaking, about one part of the fuchsin solution to ten of aniline water, the aniline-water fuchsin solution is ready for use. The cover-glasses having been prepared in the usual way, allowed to dry, and drawn through the flame of an alcohol lamp or a Bunsen burner three times, in order to coagulate all albuminous substances and thoroughly fix the sputum, or whatever else is to be examined, such as blood, discharge from the bowels, etc., on the cover-glass, it is dropped on the solution with specimen side downward, and either allowed to remain at the temperature of the room for from twelve to twenty-four hours, or is heated over a micro-burner for from one to two hours. In cases of great urgency, where the examination must be made quickly, we may pour the fuchsin upon the cover-glass and carefully heat it for a number of minutes over the flame, always adding fresh fuchsin as soon as it evaporates; unless absolutely necessary this should not be resorted to.

For decolorizing almost any acid can be used, but those to be preferred are nitric acid, hydrochloric acid, or sulphuric. The first can be kept in a solution of one to three parts of water, the last in a one to five solution. Muriatic acid, which is preferred by many, can be kept ready in the following solution: alcohol, five ounces; distilled water, one ounce; chemically pure hydrochloric acid, thirty drops. In any one of these acids the specimen is kept for from one half to one minute. If nitric acid has been used we drop the cover-glass in sixty per cent. alcohol for one minute, and then in absolute alcohol; if muriatic acid is used, the sixty per cent. alcohol can be dispensed with and only absolute alcohol used.

Tubercle bacilli, taking up the coloring matter with great difficulty, will also be decolorized very slowly, so that, after all the other bacteria, together with the pus-corpuscles, epithelia, and whatever else should happen to be in the specimen, have given up their color, they will yet remain perfectly colorized.

As a contrast color methylene blue is used, with which the specimen is stained for one minute, washed in water, and is now ready for examination. Methylene blue, when well made, can be kept for a very long time. The quickest way of preparing it is to add about ten drops of a concentrated alcoholic solution of methylene blue (one part of methylene blue in substance to five parts of alcohol) to two ounces of distilled water, and to this add one drop of a ten per cent. caustic potash solution. Specimens prepared in the above way will invariably show the tubercle bacilli, if any are present, with the greatest possible clearness.

As I have said before, other methods are numerous, but entirely superfluous. The fuchsin can be prepared with carbolic acid, or boric acid, or salicylic acid instead of aniline water, and such solutions keep, which is the only advantage over the original method; but, considering that we can prepare a fresh aniline-water solution in a few minutes, are hardly worth using. One method, which has been praised a good deal, is a modification of Ziehl-Nielsen's carbolic-acid fuchsin method, the principle of which consists in using a sulphuric-acid methylene-blue solution, where the contrast color and the decolorizing agent are used together. Though this method appears to be extremely simple, it is certainly more difficult for the general practitioner to make a good specimen with it than with the previous method.

If we examine a large number of different sputa of persons *suspected* of having tuberculosis we will frequently be able to corroborate the physicial diagnosis, but perhaps just as frequently not find bacilli of tuberculosis in spite of the most careful examination. In no suspected case should we be positive as to the absence of bacilli until we have most thoroughly examined at least six well-prepared cover-glasses, and occasionally it may become necessary to examine sputa of the same patient three or four or even more times. Supposing, now, that we have become convinced of the non-presence of tubercle bacilli, is it possible for us to make any other diagnosis from the bacteriological examination alone, without at the same time knowing any of the clinical features of the case? Bacteriology has unfortunately not yet advanced so far that we can in every case make a positive diagnosis where tuberculosis can be excluded; but we are certainly able, in a number of cases, to assist the clinician, and sometimes even to tell him with pretty great certainty what the trouble is. In most of the cases where sputa are examined it is, of course, not possible to set about making any cultures, and for that reason we can only give a guarded opinion, but even that is often sufficient for the clinician.

In the first place, what will we expect to find in every sputum where an inflammatory process is going on, no matter what that process is? We will find pus-corpuscles in greater or smaller numbers; epithelia from the respiratory and oral tracts, ranging in size from those about one-third larger than the pus-corpuscles, which are probably derived from the lungs, to the very large ones from the mouth; staphylococci and streptococci pyogenes, the number of which varies with the number of pus-corpuscles and the intensity of the process; very often some sarcinæ, and occasionally yeast and the bacillus subtilis, which latter are contaminations from the air.

As regards the staphylococci and streptococci, which are the more numerous, and is their relative number always the same? That these cocci are present almost everywhere where there is pus is denied by no one, though the axiom which a number of years ago was put up by a number of investigators, "No suppuration without micro-organisms," is probably not strictly correct. At any rate this is yet an open question. The staphylococcus is undoubtedly the most frequent organism of suppuration, and is present in the greatest number of cases where there are any cocci at all. The streptococcus pyogenes has been found in about sixty per cent. of all the examined cases. It is especially frequent in such inflammations which concentrate themselves in the lymph-channels. As a general rule it does not produce such quick suppuration and destruction of tissue as does the staphylococcus, but it may penetrate the tissues very far before it destroys them. Rosenbach, to whom our knowledge of the pyogenic microbes is mostly due, has already called attention to this fact, which was corroborated by all later observers. The streptococcus will therefore be more frequently found in phlegmons and diffuse suppurations of serous cavities, but very rarely or not at all in the pustular processes, such as furuncles and carbuncles, which, as it seems, are almost exclusively caused by the staphylococci.

So much for the general inflammatory and suppurative processes, but how is it in the sputa examined? Here we will almost invariably find *both* staphylococci and streptococci, but by no means in the same proportion. From a large number of sputa which I have examined I think I can say that the more streptococci are present in a given case, and the less staphylococci, the severer the inflammatory process will be, and in abscesses and gangrene, which of course are very rare, we will find almost nothing but streptococci. That this is invariably the case I am not yet prepared to say, but in the larger number of specimens it certainly holds good and is very often an extremely important factor in the making of a diagnosis. The following example will serve to illustrate this:

About two years ago Dr. B—— brought to me a sputum, with the request of examining for tubercle bacilli, the diagnosis of tuberculosis having been made by one of our foremost diagnosticians. As I afterward learned, the patient was a man, aged fifty-one, who was perfectly well up to the time of his last illness, which commenced with chills and severe headache. On the second day cough began, accompanied by slight expectoration. Chills and night-sweats continued at irregular intervals until death. At the time of the examination, however, nothing was

known by me about the case. Of this sputum cover-glasses were made in the usual manner, and they were stained with the Koch-Ehrlich method. Very careful examination failed to reveal any tubercle bacilli, but there were present a large number of pus-corpuscles, epithelia from the respiratory tract, especially small ones, probably derived from the lungs, an enormous amount of streptococci, comparatively few staphylococci, quite a good deal of the micrococcus tetragenus and small bacilli, rounded off at the ends, which I had every reason to believe were samples of the bacillus pyogenes fœtidus, first cultivated by Passet from an abscess. Of the latter I was still firmer convinced on the following day, when the sputum had developed a putrid odor, not present when it was first received. From all these features I made the probable diagnosis of an abscess of the lung. One week later the sputum was again sent to me for examination, when all the above features, but especially the streptococci, were present in a much more marked degree than on the preceding examination. On this occasion I again made the diagnosis of abscess, perhaps even gangrene, of the lungs, and reported the patient to be much worse than the previous week. Two days later he died, and the post-mortem examination showed that there was a large abscess at the apex of the right lung.

In another case the same features were present and the same diagnosis made, afterward corroborated by the clinical character, but no post-mortem examination was here allowed.

In the first case, then, the earliest intimation as to the probable diagnosis was given from a bacteriological examination, without the knowledge of any of the clinical features. As soon as the diagnosis was intimated, the clinician admitted that he himself considered it to be more probable than the diagnosis of acute phthisis previously made.

Quite frequently sputa suspected of being tuberculous are brought for examination where we are pretty safe to say that there is severe bronchitis but no tuberculosis.

Besides all the bacteria which have so far been mentioned, there are still others that are occasionally found in sputa coming from patients where the clinical diagnostician has not made a positive diagnosis, but thinks that there may be a commencing tuberculosis. The most important among these is the pneumococcus or pneumo bacillus. In 1883 Friedländer first called attention to the fact that in pneumonic patients we almost invariably discover peculiar oval cells, which are sometimes pronounced micrococci, at others short bacilli with rounded-off ends. They are very often found in groups of two, four, or even six, surrounded by a sort of capsule; this latter is not invariably present, but in almost all specimens taken from the animal body, never in those made from cultures. That this bacilli is by no means the sole cause of pneumonia is certain, also that we may occasionally find bacilli exactly resembling them in perfectly normal sputum.

Several years after Friedländer's discovery A. Fränkel described a bacillus or coccus very similar to the above, but undoubtedly different from it, as the producer of pneumonia. The main differences between the two are that Fränkel's is shorter, that there are not as many grouped together, and especially that it retains its color when subjected to Gram's method, whereas Friedländer's bacillus becomes discolored. Besides these two, a number of other cocci and bacilli have at different times been described as producing pneumonia, but at the present day it is admitted that in the larger number of cases of acute croupous pneumonia either Friedländer or Fränkel's cocci will be present. This knowledge will not infrequently aid in making a diagnosis. In quite a number of cases of sputa examined, my probable diagnosis of pneumonia has afterward been found correct; in most of these tuberculosis was at first suspected. Should the number of staphylococci and streptococci present together with the pneumococci be very large, we may suspect pleuro-pneumonia.

It has been believed by some that the same organisms will sometimes be found in catarrhal pneumonia, and I have a number of times been able to prove this assertion. Not long ago a sputum was sent to be examined for tubercle bacilli. The physician sending it was tolerably certain, from all the clinical features, among which was rapid emaciation and continual night-sweats, of it being a case of tuberculosis, but he wished to become positive by having a microscopical examination made. The diagnosis of pneumonia, of course it was impossible to say whether catarrhal or croupous, he would at first not consider correct; but on meeting him about a week later, he informed me that now there was no doubt of the case being one of a catarrhal pneumonia, and that the patient was rapidly improving.

Such cases are not by any means rare, and tend to show that though bacteriology is still in its very infancy, and as yet a very unsettled study, we can, by a little practice, often greatly benefit the practitioner, even if we tell him only that such a diagnosis is probably the correct one. That cultures would in many cases enable us to speak with more positiveness is undoubtedly true and not only is the time for making them too limited in most of the cases where a sputum examination is wanted, but, as a general rule, it is not at all necessary, since positive diagnoses are not expected where tuberculosis can be excluded. The time will undoubtedly come when we will be able to do much more than we can now, but at present let us be satisfied with the little that has so far been accomplished. The more that examinations of sputum will be carried on, the more accurate diagnoses will we be able to make. That a great deal also depends upon our being able to correctly diagnose the epithelia found, is as certain as it is in making correct diagnoses of genito-urinary troubles by means of the microscopical examination of urine. Carl Heitzmann has for years claimed to be able to make positive diagnoses of such troubles from simple microscopical examinations of urine, without knowing anything at all about the clinical symptoms of the case, and he has time and again proven his assertions to be correct. Unfortunately, the possibility of making such diagnoses is still denied by most other observers in spite of the many proofs which have been brought forward to substantiate the claim made. Although so far we have not been able to diagnose epithelia from the respiratory tract with absolute certainty, there is no reason why, before long, we should not be able to do so.

So far I have concerned myself with the examination of sputa only, and here the finding of tubercle bacilli, when any are present, is comparatively easy. This is not the case, however, with other excretions, such as mucus from the bowels or urine. The examination of such specimens has to be conducted with much greater care, and a good deal of patience is required in carrying out such investigations; but if we only have the perseverance we will be rewarded. In such specimens, when they come from tubercular patients, we must not expect to find a large number of bacilli, but will have to rest satisfied if a few undoubted ones are found. These will be sufficient for a diagnosis.

The examination of blood also is very tedious, but in this case, too, we can make a positive diagnosis. Some time ago a handkerchief was brought to me which contained a small clot of blood, with the request of examining this blood for tubercle bacilli. After having soaked it in distilled water, cover-glass specimens were made, and the examination, though it had to be carried on for a long time, was rewarded by the discovery of a small number of tubercle bacilli, which left not the slightest doubt as to their nature. Up to the time of the examination characteristic symptoms of tuberculosis had not developed in this patient, but commenced not very long after.

The next part of my subject is the bacteriological examination of urethral or vaginal discharges. This is a matter of no less importance than the previous one. The principal question to determine here is, whether we are

able in every single case to pronounce a given discharge as gonorrhœal or non-gonorrhœal. Let us take for example one of those not rare cases where a man who has had gonorrhœa many years ago, and has long since considered himself cured, becomes engaged to be married. Without any apparent cause, except perhaps the sexual excitement under which he labors when in the company of his intended, he one day notices a slight discharge from his urethra, which, instead of diminishing, becomes rather worse, until he gets frightened, and now wants his physician to tell him whether it is his old gonorrhœa, which has remained latent and broken out again, or whether it is only a harmless, non-specific urethritis. That this question is of the greatest importance, we can readily imagine. Is it possible to make such a diagnosis? It undoubtedly is, though not always easy in some such cases; however, even one examination may be sufficient to make a positive diagnosis of gonorrhœa, and such a patient should naturally not be allowed to marry.

In the year 1879 A. Neisser, of Breslau, for the first time described cocci, afterward called gonococci, as invariably present in all gonorrhœal discharges, and in these only, and which he therefore regarded as the only true cause of gonorrhœa. These cocci appear almost invariably in the form of diplococci, and have a characteristic arrangement. Each coccus is divided into two by a light space, and the adjacent sides are usually somewhat flattened, thus having the so-called biscuit form. Single cocci will only exceptionally be found. These cocci lie in irregular masses, either entirely within or entirely without the pus-corpuscles and epithelia, but never halfway within and half-way without. They never lie in the nucleus, which invariably remains free, no matter how crowded the pus-corpuscle may be. This arrangement Neisser believed to be entirely characteristic, never being found in other than gonococci. His assertion was investigated by large numbers of experimenters, and a great many articles for and against the theory made their appearance. By some, especially Lustgarten and Mannaberg, it was claimed that cocci which could in nowise be differentiated from gonococci were occasionally present in the perfectly healthy urethral mucous membrane, not only in the fossa navicularis, but also in the deeper portions; that slight differences exist nevertheless is, however, quite certain. These cocci Lustgarten and Mannaberg claimed were also found within the cells, exactly in the same way as gonococci. That they could only have found them in epithelia, and not in pus-corpuscles, is quite evident, since pus-corpuscles are, of course, not present in the healthy urethra. When Neisser and, after him, Bumm described the intracellular arrangement as characteristic of gonococci, they always meant pus-cells and not epithelial cells, since all other kinds of cocci and bacilli may also arrange themselves within epithelia; but diplococci were very rarely found within the cells, and where such was the case the size usually excluded their being gonococci.

The questions to be answered, then, will be, first, Is the gonococcus described by Neisser really the virus of gonorrhœa? Second, Can gonococci, when found in a given case, invariably be considered as diagnostic evidence of the presence of gonorrhœa and sufficient for the differential diagnosis between a specific and a non-specific urethritis? A very large number of examinations by many different observers have shown that gonococci are constantly present in all diseases of the mucous membrane which run the clinical course of a gonorrhœa, so much so that wherever gonococci are positively found, gonorrhœa can with certainty be diagnosticated. Mechanical and chemical irritants of the urethral mucous membrane, which may also cause suppurative discharges, will never be attended by gonococci. Other cocci may sometimes also cause a urethritis, but such cases are clinically different from a true gonorrhœa.

In cases of undoubted acute gonorrhœa, especially when a number of days old, the specimen will, upon examination, be seen to be filled with gonococci, and other microorganisms will in such cases rarely be found. After having made our cover-glass specimens in the usual manner, we simply color for half a minute with a watery solution of fuchsin or gentian violet, which will be all that is necessary in such a case. All, or almost all the cocci present will be seen to have the characteristic appearance of gonococci, being grouped within the pus corpuscles, the nucleus, however, remaining free. Occasionally, even in such acute cases, other cocci, such as staphylococc and streptococci—easily distinguishable by their arrangement — are present, especially in such cases where we do not have a simple gonorrhœa, but at the same time some other inflammation, such as an acute prostatitis or a peri-urethral abscess.

For purposes of differential diagnosis we must resort to another method, in order to satisfy ourselves, with absolute certainty, whether cocci, which to the eye appear to be gonococci, really are such. Roux was the first to call attention to the fact that gonococci lose their coloring matter when subjected to Gram's method, whereas other cocci keep their color. This has been found to be correct in almost all cases examined, so that at present we can consider it one of the most important points for differential diagnosis. Gram's method consists in first coloring with an aniline-water gentian-violet solution, made by mixing one part of gentian violet in subs'ance with one hundred parts of aniline water, and then subjecting the specimen to an iodine iodide of potash solution—iodine, one part; iodide of potash, two parts; distilled water, three hundred parts. After having drawn the cover-glass through the flame three times, we allow it to float on the aniline-water gentian-violet solution for from twenty to thirty minutes; from there we transfer it directly into the iodine iodide of potash solution, where we leave it about five minutes. Now it is placed in absolute alcohol, where it is kept until entirely discolored, that is, until the alcohol dropping off the cover-glass does not show any violet tint; the time for this will vary, but will be from three to five minutes. If we wish to obtain good specimens, both the iodine iodide of potash solution and the alcohol should be changed a number of times, and each fresh specimen be subjected to a fresh solution, otherwise precipitates will remain in the specimen, and may cause serious annoyance. After the specimen is entirely decolorized it is washed in distilled water and may at once be examined. The only things which have remained colored after this procedure are bacilli and cocci other than gonococci which happen to be in the specimens.

It will be much more convenient, however, to recolor the specimen with some contrast color. Here we are confronted with the difficulty that by recoloring such specimens mistakes can easily be made, in that an overstaining of such bacteria which have retained their color after treatment with the iodine iodide of potash can quickly take place with the second color. Especially fuchsin and the solutions of safranin, which Roux originally recommended, overcolor so quickly that we cannot allow the coloring matter to act longer than a few seconds, even if the solution is as weak as possible. If such overstaining has once taken place, even the most experienced observer can only with great difficulty find a difference in color between those cocci which have lost their staining when subjected to Gram's method, and those which have kept it, and then it can easily be imagined that a decoloring has taken place where such is not the case.

The best color for this purpose, certainly the one which is least liable to overstain, is Bismarkbraun vesuvin, which can even be allowed to act for from one to two minutes. The solution must not be an alcoholic one, but a from one to two per cent. watery solution will fulfil all purposes. It is true that vesuvin also has its disadvantages, among which the most important is that after coloring with it the specimen is often not entirely clear, and if we examine such a specimen for some time the eye easily becomes tired. Of all contrast colors it is, however, undoubtedly the best.

In specimens prepared in the above manner the pus corpuscles, epithelia, and gonococci will be stained brown, whereas all the other bacteria have a blue, or, at least, a very dark color. The contrast between gonococci and the other cocci will be sufficiently marked in every case, so as to enable us at once to diagnosticate between them. Out of a very large number of cases examined by different observers, only four per cent. showed a small number of cocci not gonococci, which lost their color when subjected to Gram's method, and these were so entirely different from gonococci that they could not be mistaken. All intracellular cocci, without exception, which have lost their color, can undoubtedly be pronounced as being gonococci. With only a little care in the preparation and examination of such specimens, mistakes should not occur. How often have cases of acute urethritis been examined where the patient at first positively denied all possibility of infection by sexual intercourse, but where, after a microscopical examination, he reluctantly admitted that, after all, this was the source! Cases in which a slight urethritis is caused in married life from too frequent indulgence are not rare, but never have I been able to find gonococci in them. These cases will always run a shorter and a milder course than true gonorrhœa.

One very interesting case has just come under my observation. The patient, a man over fifty years of age, who has had a number of gonorrhœas in his life, but the last many years ago, and has for a long time been a healthy man, married, a number of months ago, a woman somewhat advanced in years, but still virgin. She had a very slight vaginal discharge, but was otherwise well. When he first tried to have sexual intercourse with her he was utterly unable to rupture the hymen, and therefore had to desist. The next morning he noticed a discharge from the urethra, which grew worse, and lasted a number of weeks. He thought that he had true gonorrhœa. Some time after his first attempt he again tried, again failed to penetrate, and again had an attack of urethritis. On the third trial urethritis once more resulted, and this time he brought a little of the vaginal discharge for examination. Cover-glass specimens having been made from the discharge and the same put under the microscope, it was found to contain some epithelia and a few mucous corpuscles completely filled with cocci, and free cocci in great abundance. These cocci were found almost invariably in groups of two, exactly resembling the gonococci, but did not have the typical intracellular arrangement. Upon being subjected to Gram's method they retained their color. I do not doubt that here we had nothing but the micrococcus subflavus Bumm, which, though harmless to the woman, would invariably set up a urethritis in her husband. The patient was of course told that he had no gonorrhœa, but that he should not attempt to have any more intercourse with his wife until examination of the vaginal discharge proved the absence of the coccus.

Cases of mixed infection, though not numerous, are still sufficiently frequent to warrant some attention. In a case of this kind, examined some time ago, the diagnosis of severe prostatitis, possibly abscess of the prostate, together with gonorrhœa, was made from the microscopical examination alone, without knowing anything of the history. Here, of course, the knowledge of the epithelia also comes into play. The history, which I afterward learnt, is as follows: The patient was a medical student, twenty years of age, who, just to learn the feeling experienced by the passing of a sound, passed a not very clean instrument on himself; though it caused considerable pain, he persisted until he had succeeded. The same night he had a severe chill and much pain, especially in the prostatic region. On the following evening he had sexual intercourse, as he averred for the first time in his life. The day after he felt so bad and broken down that he consulted a physician, who not being positive what to make of the case, simply advised rest in the recumbent position and applications of ice. On the fifth day a very purulent discharge was present, some of which was brought to me for examination. The diagnosis was clear enough, and there was not the remotest doubt that here we had to deal with a case of mixed infection. Both staphylococci and gonococci were present in very large numbers, though perhaps the former predominated. The epithelia from the prostate were very abundant, beside these, of course, epithelia from the urethra, which will be found in every case of gonorrhœa.

In all chronic cases of urethral discharge, where a diagnosis cannot be made from the clinical symptoms, bacteriological examination in the above manner should be resorted to, and will almost invariably sooner or later clear up the case. In such instances we will be pretty sure to find other cocci, very often also bacilli, but if the discharge is gonorrhœal, gonococci, though sometimes in rather small numbers, will surely be present. Here again one examination will, in a suspected case, not be sufficient; if gonococci are found at the first examination, there remains no doubt as to the diagnosis; if not, a number of examinations must be made. In one case examined the patient had his last attack of gonorrhœa eight years ago; this attack lasted a very long time, but finally stopped and he considered himself cured. He became engaged to get married, and one morning, on waking up, noticed a slight discharge from the urethra, which, instead of becoming better, grew somewhat worse. Treatment was instituted and an examination of the discharge requested. The first examination revealed a prostatitis, but no gonococci could be found; a second examination, made after treatment had been stopped for some time, revealed gonococci, but, on account of the gravity of the case, the discharge was again examined a week later, when no doubt remained as to it being due to gonorrhœa. The patient was advised not to marry at present, and soon after broke off his engagement.

In conclusion I can only repeat that bacteriological examinations should in all doubtful cases be resorted to, and will frequently either clear up the case completely, or at any rate help toward the making of a correct diagnosis by the clinician.

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Progress of Medical Science.

The Urine in Pernicious Anæmia.—More evidence in support of the view of pernicious anæmia being a hæmolytic process, initiated probably by some ferment in the gastro-intestinal tract, and evinced, therefore, most markedly in the portal blood—a view well worked out by Dr. W. Hunter, of Cambridge—has been lately adduced by this observer in a series of papers contributed to *The Practitioner*. The subject-matter of his contributions consists in observations on the excretion of pathological urobilin, of blood-pigment, and of iron. He made careful analysis of the urine in a typical case of the disease, and draws especial attention to the exceedingly high color of this fluid, although the average specific gravity was never above 1.016. Indeed, in the later stages, when the quantity passed was greatest and the specific gravity lowest, this deep coloration was most marked. Such a condition cannot fail to arrest attention, for it is in marked contrast to the character of the urine in other forms of anæmia. The fact, too, has been noted by other observers. Bile-pigments were not the cause of the coloration, but spectroscopic examination proved the presence of pathological urobilin, which MacMunn has shown to be distinct from the urobilin of normal healthy urine, and its occurrence was found to be associated with an excessive elimination of bile into the intestine. This increased production of bile-pigments indicated an increased disintegration in the liver of hæmoglobin; but Dr. Hunter remarks that not all the "pathological urobilin" could have had this hepatic origin, since at death, when the urine still remained of high color, there was no excess of bile

in the duodenum or small intestine. The probability is that other organs also yielded this product of blood destruction, and that some of the pigment in the urine was due to increased absorption from the intestine. Besides this, however, a study of the minute appearances of the kidney in this disease shows an accumulation of pigment-granules in the epithelium of the convoluted tubules during life, while tube casts and cells containing such granules may be detected, especially at certain periods of exacerbation of the disease, when it might well be inferred that the blood destruction was more intense. These facts led to an inquiry as to the excretion of iron in the urine in health and disease. Dr. Hunter estimates that the average daily excretion of iron is from 3 to 5 milligrammes. It is remarkable that the administration of iron by the mouth very slightly, if at all, increased the amount of iron excreted. Dr. Hunter found, in one observation in health, the quantity of iron excreted in the urine was 5.65 milligrammes; in one case of chlorosis, 1.71 milligramme; in another, 1.96 milligramme; and in a third, 1.61 milligramme, considerably lower than the average, but consonant with the diminished richness of the blood in hæmoglobin characteristic of this affection. In a case of pernicious anæmia, however, the amount of iron in the urine passed about three weeks before death was no less than 32.26 milligrammes, twelve days later 6.52 milligrammes, and two days before death only 1.00 milligramme. It is just ten years ago that Dr. Finny reported a case of pernicious anæmia in which Dr. Emerson Reynolds found a considerable quantity of iron in the urine; but otherwise the observations on this head are comparatively few. Still, such as they are, they harmonize completely with the hæmolytic theory, and are all the more striking when it is remembered how very deficient the blood is in coloring matter during the closing stages of the disease. Dr. Hunter thinks that these three conditions of the urinary pigments—viz., the presence of pathological urobilin, the presence of granules of blood-pigment as detected by the microscopical examination of the urine, and an increased excretion of iron—are of importance not only from the pathological stand-point, but also diagnostically. Not, indeed, that such changes are always to be noted in pernicious anæmia, but in periods of its course, periods when the disease is undergoing exacerbation, and which the examination of the blood, as well as the general condition of the patient, prove to be periods of increasing hæmolysis. For pernicious anæmia is seldom—in its earlier stages at least—regularly progressive. Many physicians have had experience of cases in which there was amelioration for a time, followed by a subsequent rapid relapse of the weakness and anæmia; and the irregular pyrexia so characteristic of the affection also seems to denote this liability to exacerbation. The observations he has made regarding urobilin likewise tend to support Dr. Hunter's contention of the blood destruction being initiated in the portal system, and we look forward to his promised further investigations into the nature of the gastro-intestinal changes which he believes to be the *fons et origo mali*, and into the measures to be taken to combat these changes. For if his view be the true one, it is hopeless to expect any other permanently successful method of treating pernicious anæmia than by attacking the disease at its source.—*The Lancet.*

Treatment of Chlorosis by Rectal Injections of Defibrinated Blood.—In a recent thesis Dr. Antiq relates the results obtained by a novel method of treating chlorosis suggested long since by Teissier. The material employed is the blood of oxen, duly defibrinated. About five ounces of this is injected *per rectum* twice a day for a week. The treatment is discontinued at the end of that period for a week, and then recommenced. Care should be taken to warm the blood over a water-bath before injecting, and the patient should be directed to retain it as long as possible, any colicky symptoms being overcome by the addition of a few drops of laudanum. According to the author, this treatment is more rapidly and certainly successful than any other at present resorted to. The proportion of red corpuscles in the blood promptly increases, and the mucous surfaces regain their normal color. He attributes the rapid improvement that takes place to the fact that the employment of defibrinated blood fulfils three indications—1, restitution of the iron; 2, restitution of oxygen; and 3, restitution of the salts of potash and the chlorides. Dr. Huchard, commenting thereupon, mentions that, in a case of his own, he had succeeded in overcoming an anæmia which had resisted all medication.—*Revue Gén. de Clinique et de Thérapeutique.*

Observations on Rheumatoid Arthritis.—Dr. Kasanli has published an account of some microscopical observations he has made on the morbid changes of the various structures of the knee-joint which accompany old age, with the view of comparing these changes with those occurring in rheumatoid arthritis, or arthritis deformans, as this affection is frequently called. The morbid changes found in the synovial membrane were most marked in the adventitia, and consisted in hyperplasia of the cellular elements and the development of connective tissue in the adventitia, together with thickening of the walls of the capillaries lying beneath the intima synovialis, also in a varicose enlargement of the capillaries, in separation of adipose tissue in the synovial membrane, and in splitting of the adventitia into fibres. In the cartilages the cellular elements were found to be undergoing fatty degeneration, and the interstitial substance to have broken up into fibres, and to have become infiltrated with certain saline matters. In the spongy portion of the epiphysis of the femur the trabeculæ had become very thin, and cavities had been formed by the absorption of the osseous substance of lamellæ, into which the bone near the cartilaginous covering had split up. In the medulla of the bone there was a marked deficiency of medullary elements, the small vessels were affected by a varicose enlargement, and their walls were thickened. These changes, which occur normally in the knee-joint in old persons, are, according to Dr. Kasanli, very similar to those found in rheumatoid arthritis.—*The Lancet.*

Pneumonic Infection in Utero.—The recognition of the infective nature of pneumonia by the bacteriologist has seldom received so marked an illustration as in a contribution by Dr. Levy, of Strassburg, upon the apparent transmission of this disease in utero. The case is related as a "typical example of infection of the fœtus in utero with Fränkel's diplococcus." The child was born at full term the day before its mother died from pleuro-pneumonia. Three days later the infant itself succumbed to a "hemorrhagic, catarrhal, lobular, and lobar pneumonia." The diplococcus was found in the pleuritic exudation of the first case, and mice inoculated with this fluid died with all the recognized signs of "pneumonococcus sepsis," presenting fibrinous pleurisy and pericarditis, splenic swelling, and diplococci in the blood and viscera. The infant's lung yielded the same microbe. That neither the inhalation of foreign bodies nor septic infection caused its pneumonia, was proved by microscopical examination. Moreover, it is stated that râles were heard in the infant's chest within seven hours of its birth, and that many cocci were found in its blood. It is held that it could not have received the disease except through the maternal blood, so that the argument involves not only the infectivity of pneumonia, but its transmissibility to the fœtus. To this one might add, as a possibility not to be disregarded, the effect of chill on the new-born infant, upon which the history is silent; but according to the new teaching, if chill had operated it would have been as a predisposing, and not as an efficient, cause. It is stated that pneumonococci have been found in the fœtal blood, but that for pneumonia to occur the infant must have breathed. Is not this a weak link in the chain of etiological reasoning?—*The Lancet.*

Pathogenic Sporozoa.—The Sporozoa are unicellular organisms, wholly parasitic, and distinguishable into the four orders, Gregarinidia, Sarcosporidia, Myxosporidia, and Microsporidia. The Gregarinidia are well known for their parasitism upon insects. For the most part unicellular, they multiply by conjugation, whereby the two united cells are transformed into a single cyst, in which the protoplasm becomes segmented and finally converted into a vast number of ovoid spores, or "pseudonavicellæ," each spore being encased in a resistant shell. The spore itself gives rise to two or more "germs," which are capable of some activity, and have been observed to penetrate into the intestinal epithelium of the insect which has taken up the spores. We have here on a small scale the alternation between a free and a stationary existence which marks so many of the higher parasites. The Sarcosporidia are usually found in the muscular tissues of vertebrates, and although it has not been proved that their presence gives rise to any symptoms, it is quite possible that some cases of "polymyositis" described by Unverricht may be due to an invasion of the parasite. In the muscle they are contained in tubes, as globular cysts, of which the most developed enclose "germs" similar to those forming in the "spores" of gregarines. The Myxosporidia occur on the skin and mucous membranes of aquatic vertebrata; their spores are furnished with projectile threads. The Microsporidia have spores so small as to have been mistaken for bacteria. They invade the tissues of insects, and to them is owing the silkworm disease pebrine, which has caused such ravages in silk culture. The best known forms of this class which occur as parasites in the human subject are the coccidia, which are so common in the liver of the rabbit. In man they have been met with in that and other organs, and doubtless would be more often found if their presence were generally recognized. Professor Wright records how Steinhaus has described one form as invading the nuclei of the intestinal epithelium of the salamander, and Podwyssozki another which invades the nuclei of the cells of the human liver, causing their destruction and inducing a kind of cirrhosis. It is here that we touch upon the potential importance of these lowly parasites. That they attack the cells and their nuclei, and thus may lead to important lesions of nutrition, is indeed a fact of wide bearing. Hence it is not surprising to find the singular affection "molluscum contagiosum" referred to their agency, while an explanation is afforded of the peculiar "molluscum corpuscle" which has hitherto been hard to find. The coccidia are described as invading the cells of the rete mucosum, replacing the cell protoplasm and sporulating within the cell, forming six to ten refractile bodies, which by mutual pressure convert the remains of the invaded cell around the coccidium cyst into the "molluscum corpuscle." Still more interesting are the observations of Darier, who has demonstrated that acne cornea is really a "psorospermosis follicularis," and has further declared that Paget's disease of the nipple is characterized by the presence of coccidia in the deeper cell-layers. A like interpretation has been placed upon the familiar contents of the cell-nests of epithelioma, and Dr. Maccallum of the Toronto Histological Department showed Professor Wright four years ago "sporulating cysts in epithelioma, and suggested the parasitic origin of the disease." Of course, it may be said that there has yet been advanced but little proof that the bodies described in these cutaneous affections, and in cancer, are really what they are claimed to be, and not, as they have hitherto been regarded, merely the products of degenerative change in the cells. If it were possible to cultivate the sporozoa, as can be done with vegetable parasites, the question might soon be settled. However, the more that is made out concerning the behavior of the gregarine in the insect, and its allies in other and higher forms of host, the more strong will be the argument derived from analogy. It has thus been shown that these parasites can and do attack the cell-elements, and hence it is not difficult to believe that even in the perverted cell changes of cancer they may take a part. The search for a bacillary parasite in cancer has proved delusive. Is it altogether visionary to anticipate that there may one day be found good evidence of a parasite of the class we are considering being at the root of this baffling group of diseases? Attention must be more and more given to cell parasitism and its effects. The remarkable researches upon the blood in malaria by many observers have shown that the blood itself may be the seat of amœboid or infusorial forms of animal life, which are very probably directly related to the disease in which they occur. Only the other day no less an authority than Professor Klebs described similar forms in the blood of influenza subjects. In point of fact, pathology is now being dominated by parasitism, and disease is becoming more and more the resultant of an internecine warfare between the minutest forms of life and the constituent cells of the higher organism. In the end, of course, the dead tissues become the seat of the fermentative action of bacteria. During life it depends largely on the inherent vitality of the cells whether they do not succumb to the living forces that so constantly beset them. There is, however, a vast field still open for research in this direction, and many a cherished theory may yet have to fall before the stern facts of science, whose only aim is the setting forth of truth.—*The Lancet.*

Tubercular Peritonitis.—From a study of this subject, based on personal experience, Dr. William Osler has formulated the following conclusions: 1. Tubercular peritonitis is often a latent affection, localized in the peritoneum, which may even run its course without inducing special symptoms. 2. As in other local tubercular processes, there is in this a natural tendency to healing, which takes place more frequently than has hitherto been supposed. 3. Statistical evidence shows laparotomy to be in many cases a palliative, and in a certain number a curative, measure.—*The Johns Hopkins Hospital Reports*, February, 1890.

Embryocardia.—In a recent communication read before the French Société Médicale des Hôpitaux, Dr. Huchard insists upon the symptomatic value of the presence of the "fœtal rhythm" of the heart, to which he has given the name of embryocardia. It is generally indicative of approaching dissolution, and consists of: 1, An acceleration of the heart-beat (tachycardia); 2, an equalization—*i.e.*, a tendency to an equal duration—of both pauses; 3, a similarity in the tone and intensity of both sounds. It differs materially both in nature and significance from simple tachycardia, and there is no material relationship between the two. The anatomical causes of this condition are: 1, More or less advanced degeneration of the myocardium; and, 2, extreme enfeeblement of arterial tension. These two conditions are especially to be noted in typhoid fever; hence the frequency with which embryocardia is remarked in the course of severe typhoid, but it is also met with in scarlatina, pneumonia, diphtheria, and generally in cachexia from any cause, and at the later stages of asystole. It is generally the forerunner of collapse, and is always a sign of grave import. The treatment of this condition comprises two indications; 1, to increase the contractile force of the heart; and, 2, to increase arterial tension. Digitalis, however, is rather injurious than otherwise, and the best means of increasing the strength of the heart-beat is by the subcutaneous injection of caffein, while arterial tension is best augmented by hypodermic injections of ergotin or ergotinine.—*The London Medical Recorder.*

Benzin for the Removal of Smegma.—For cleaning off smegma, and greasy applications used in treating balanitis and similar conditions, there is nothing equal to benzin. The application is painless and it cleans the surface without rubbing. It also seems to have a curative effect upon ulcerations.—*Canada Medical Record.*

MEDICAL RECORD:

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THE DIAGNOSIS OF CANCER OF THE STOMACH.

THE diagnosis of gastric cancer is often extremely difficult. In just the same measure with its difficulty, however, comes its importance to the patient; and it is not surprising that the ingenuity and acuteness of medical men has been bestowed most actively upon this subject.

The ordinary diagnostic indications are familiar to our readers; the age of the patient, the physiognomy, the pain, the vomiting, the tumor felt on palpation, etc. We have several times called attention to the occasional value, in a negative way at least, of tests of the gastric juice for hydrochloric acid. Dr. G. Lyon (*Gazette des Hôpitaux*) has recently reviewed quite thoroughly the other alleged helps to diagnosis, furnished by examinations of the urine and the blood.

One may find, he says, in cancer of the stomach diminution in urea and in phosphates, a slight amount of albuminuria, or of peptonuria, or glycosuria, indican, and urobilin.

Rommelaere first called attention to the diminution of urea in cancer, and asserted that when the daily amount fell below twelve grammes, one ought to suspect cancer. M. Kirmisson has stated in support of this opinion that persons suffering from cancer anywhere, do not, as a rule, excrete more than ten grammes of urea daily. MM. Deschamps, Dujardin-Beaumetz, and Robin have all, however, contradicted Rommelaere's statements, and all that can be said probably is that in cancerous patients there is usually a diminished amount of urea excreted.

The same author, Rommelaere, states that in cancer there is a diminution of phosphates, which is not dependent upon diet. Jaccoud, in confirmation, reports a case in which the daily amount of phosphoric acid was 1.34 to 1.36 gramme, or about half the normal.

One sometimes finds traces of albumin in the last stages of cancer, but its presence is of no diagnostic significance.

If sugar is found in the urine, however, in connection with symptoms of cancer of the pylorus, it may be assumed that the pancreas has become involved. Indican is often found in the urine of the cancerous as in other diseases, and Jaksch has observed the "Burgundy-red" color obtained by adding a very dilute solution of the tincture of chloride of iron, a coloration attributed to the presence of acetone.

Much more significant is the presence of peptone in the urine, this was found regularly by Maixner in twelve cases of gastric cancer. Pacanowski, also, found it uniformly. Whether it may not be equally frequent in gastric ulcer is not stated.

M Hayem, in his work on the pathology of the blood, has made some observations as to its change in persons suffering from cancer. He notes alterations in the number and form of the red and white corpuscles, morphological changes in the hæmatoblasts, and diminution in the chlorides of the blood and in the hæmaglobin. The red corpuscles may become very much reduced in number, and structural alterations occur which simulate the appearance of parasites. The condition has been called by Hayem, pseudo-parasitic. The white corpuscles in some cases are augmented in number, in other cases they remain about normal, and Hayem thinks it probable that these are cases of epitheliomata. The hæmatoblasts may increase in number owing to their not having sufficient nourishment to turn them into red cells. In the great majority of cancers of the stomach, according to Hoeberlin, the hæmoglobin diminishes to the extent of about fifty per cent.

It will be seen from the foregoing that aside from the rational signs of cancer of the stomach, we have a number of factors which may throw much light upon the real nature of the disease; and the physician will be hardly justified in hesitating in his diagnosis until he has obtained as much light as possible from the records furnished by careful examination of the gastric juice, the urine, and the blood.

THE COMPULSORY ENGAGEMENT OF WOMEN PHYSICIANS IN STATE ASYLUMS AND HOSPITALS.

A BILL to provide women physicians in State asylums and hospitals where women patients are restrained, has passed the State Senate at Albany, and it seems to be in a fair way to become a law.

This we understand to be the bill of which the purpose is to compel superintendents of lunatic asylums to employ female physicians for the female wards. No law of such a character ought to be enacted. It is founded on a mistaken sentimentalism, and is a kind of special legislation likely to interfere with hospital discipline and work serious harm.

The number of good women physicians is limited, and those who are desirable will not for the most part care to take poorly paid work among female lunatics. It would only be among recent graduates without practical experience that candidates for the positions could be found.

More than this, it is a very well-known fact that, as a rule, women do not want to be attended by women doctors, and it is hardly fair to take advantage of their lunacy to impose such upon them by law.

We believe that there should be women physicians as assistants in our lunatic asylums, when the medical superintendent finds it desirable. The women should be allowed to compete for and hold the positions if they have the merit. But, as we have already said, it is merit and experience, not sex, or age, or color, or condition by which medical attendants should be selected.

OUR FRIENDS ARE UNREASONABLE.

Every little while we find it necessary to say a few words by way of remonstrance, if not of gentle reproof, to some of our kind and highly esteemed, but somewhat impetuous and unreasonable, correspondents. Not long since we were quite severely taken to task for having printed a signature incorrectly, and our offended correspondent spoke in a questioning manner of our lexial powers, in fact he asked bluntly if we could not read yet. Our friend had learned wisdom by experience, and wrote his second communication on a letter head with his name printed at the top. So now we know who he is, a thing that we could never have guessed from his signature. It seems to be the sole aim and object with many people to write a signature that can never by the slightest chance be read by anyone who is not familiar with it, and yet they seem actually hurt if one confesses his inability to decipher it. There is, of course, no law against this, and no one would ever object to it, if the writer would only, when writing to strangers, use paper with his name clearly printed on it. Then he could write his signature in Arabic if he preferred and no one would care a picayune. But if he omits this simple precaution, he is himself responsible for any mistakes that his correspondents may make, and we certainly will not shoulder the blame.

A word on another subject. Contributors will please not send their manuscripts rolled up; let them be sent either flat or folded, but never rolled. Some of our exchanges even come in that shape. They ought to be ashamed of themselves.

BROWN-SÉQUARD'S REJUVENATOR ONCE MORE.

The newspapers have for a long time been silent on the subject of the rejuvenation of old men by means of the injection of testicular juice, and many people have doubtless nearly forgotten that such a thing was ever talked about; but the venerable discoverer of this odd form of stimulant has by no means forgotten it, and his faith in its efficacy grows stronger every day. He has recently published a brochure recounting the details of the method and producing additional evidence of its value.

He does not think much of the greater number of the experiments made in this country and reported with such minuteness of detail in the newspapers. Numbers of physicians or rather quacks (*plusieurs médecins ou plutôt des médicastres et des charlatans*), he says, knowing nothing whatever of the proper method of procedure, gave injections of testicular juice to old men or those worn out by disease or sexual excesses, doing them no good and exposing them to the greatest risks if nothing worse. He of course rejects all such experiments as worthless, and accepts only those which have been carried out in a scientific manner by scientific men. The best of these, he says, reports of which he has seen, were those of Variot, of Paris, Villeneuve, of Marseilles, and Loomis, of New York. Even these were not wholly satisfactory, for in many cases the experiments were made on invalids and not on those who had no malady but old age, and in none of the instances were the experiments extended through a sufficient length of time to test their real worth. In his own case the good effects of the injections were observed for about four weeks after the last one was made, but then a rapid decrease in strength was noticed, and in a comparatively short time his condition was just the same as before he began. This was, he believed, an additional proof of the efficacy of these injections. He does not say whether he has again resorted to the remedy, but we suppose that he has, for with such a blessing within his reach we cannot imagine that he would refuse to stretch forth his hand and grasp it.

But there are other virtues which the testicular juices possess which we would never have imagined to reside in them had not they been discovered by experiment. Dr. Suzor, of the Island of Mauritius, has practised injections in certain cases of leprosy with the most gratifying results, the ulcers rapidly cicatrizing and the patients regaining appetite and strength. The same experimenter reports a case of malarial fever, occurring in a woman, in which one injection sufficed to arrest the daily paroxysms immediately and to remove permanently the feeling of languor and the jaundice from which the patient was suffering.

As a result of his study of these various experiments and of his personal experience, Dr. Brown-Séquard is more firmly persuaded than ever of the value of his discovery. "There is no doubt," he says, "that injections of the dilute juice extracted from the testicles of living or recently killed animals exert a marked dynamogenic action upon the nervous centres, at least in a large number of cases. There is also no doubt that these injections are without danger when they are made with those precautions which intelligent physicians know to be necessary when animal matter is to be introduced beneath the skin."

We can but express the hope that the mental and physical powers of this venerable savant may be preserved for many years in all the vigor of early manhood by means of injections of this wonderful dynamogenerator.

VACCINATING AGAINST THE DISTEMPER.

A very interesting contribution, both to lovers of dogs and to lovers of science, is made by Mr. Everett Millais in the *British Medical Journal* of April 12th. He has been making bacteriological studies of distemper in dogs, and he thinks he has found the cause and the means of preventing this malady, so fatal to canines.

The pathogenic microbe he states to be a bacillus, which he calls "bacillus B." This liquefies gelatine, descending as a flaky mass in the almost clear fluid, which is covered by a whitish scum. Finally, when the whole of the gelatine is liquefied, the flakes gather at the base, and, if stirred, appear to be of a ropy consistency.

Inoculations of pure cultures of this micro-organism caused typical distemper in dogs. When pneumonic complications were present there were always micrococci as well as the bacillus B. found in the tissues.

Growths of the specific bacillus were heated to 60° C. for 60 minutes and then diluted with sterilized water. Injections of this fluid were then made beneath the skin of eleven dogs. These animals were subsequently inoculated with the secretions of distemper and kept in infected kennels. Four had no distemper, five had it in a mild form, two in a severe form, and one died. Mr. Millais adds that he was allowed to make protective inoculations on two puppies out of seventeen owned by a

St. Bernard breeder. Distemper broke out in his kennels and all but the two inoculated puppies died. Mr. Millais thinks that he will be able to prepare an efficient protective virus against distemper.

THE STORY OF SOME COMMON MEDICAL WORDS.

THE *British Medical Journal* has been extracting interesting items from a dictionary. The work in question is the new English Dictionary, on Historical Principles, by Murray, and it contains many curious accounts of medical as well as ordinary terms. The editor only goes from "cast" to "clivy," but he finds something new about "catarrh," a word originally applied only to a running from the nose, and "cirrhosis," a word from *kirros*, yellow, and applied originally by Laënnec to yellowish granules in the liver.

The term chiropodist has the following curious origin: "In 1785 a certain D. Low published a work entitled 'Chiropodologia: a Scientific Inquiry into the Causes of Corns, Warts, Bunions, etc.,' and on page 83 he makes use of the expression, 'a skilful chiropodist.'" "Whether," says Dr. Murray, "the inventor put together χείρ, hand, and πούς, ποδ–, foot, to indicate that hands and feet were the objects of his attention, or whether he had in view the ready-made Greek χειροπόδ-ης, 'having chapped feet,' does not appear. The latter would justify his formation, the former better suit his meaning." Of this man Low and his new-fangled designation, the contemporary European magazine wrote: 'Classic lore . . . . has now reached Davies Street . . . . the residence of our Lucretian *chiropodist* (*Anglicè*, corn-cutter).' So that it is to the unscholarly coinage of an eighteenth century charlatan that we are indebted for a word which the editors of the New Sydenham Society's 'Lexicon' have admitted into their list under the high-sounding style and title of 'chiropodology.'"

The evolution of the name for castor-oil, and the history of chloroform, are all given in what is evidently destined to be, when finished, a very remarkable lexicographical work.

News of the Week.

Arrested for Practising Illegally.—A young physician, recently graduated from the Missouri Medical College, has been arrested in St. Louis for practising medicine without having registered. The child whom he had been treating unfortunately died, and this led to his detection.

Presentation of Portraits.—On April 22d a number of the members of the Philadelphia College of Physicians, together with several invited guests, took part in a dinner to mark the occasion of the presentation to the college of portraits of Drs. D. Hayes Agnew and S. Weir Mitchell.

Omaha Wants the Next Meeting.—The Omaha Medical Society has appointed a committee to invite the American Medical Association to hold its meeting for 1891 in that city. The committee is working actively to gain its point and has sent letters to the various medical societies in this section of the country, urging their delegates at the next meeting of the association in Nashville to vote for Omaha as the meeting place for 1891. The chief objection to Omaha is its alleged lack of hotel accommodations, but members of the committee claim that the two cities of Omaha and Council Bluffs can together provide for 1,600 guests over and above the average number without any undue crowding.

Dr. Mary A. Dixon Jones.—The indictment for manslaughter in the second degree against Dr. Mary A. D. Jones, of Brooklyn, has been dismissed, District-Attorney Ridgway having notified the court that there was no evidence upon which to try the accused. Dr. Jones has made a brave fight against accusations that would have crushed a weaker spirit, and she is to be congratulated upon the complete vindication which she has now obtained.

The Hospital Saturday and Sunday Association held its last meeting for the year in St. Luke's Hospital, on the evening of April 21st. The eleventh annual report of the organization was presented and approved. It shows last year to have been the best in the association's history, and puts the grand total of collections at $57,090.66, a gain of over $5,000 on the previous year. The association offers two prizes of $100 and $50 for two hymns to be sung on Hospital Saturday and Sunday at the synagogues and churches.

Ambulance Drill of the Twelfth Regiment.—An exhibition was recently given of the workings of the Ambulance Corps of the Twelfth Regiment, N. G. S. N. Y., in the practical duties of company bearers and in rendering first aid to the injured in camp, on the march, and in the field, when troops are engaged in active conflict. Sixteen men of the corps gave an exhibition of bandaging with Esmarch's triangular bandages, in cases of wounds or fractures, operating upon a like number of their comrades. The casualties included fractures of the lower jaw, of the knee-cap, and of the collar-bone. The method of the removal of the slightly wounded by means of improvised hand or arm seats and of the seriously injured on litters was illustrated.

A Town without a Doctor.—Presidio del Norte, Mex., a town of some 7,000 inhabitants, is said to be without any resident physician.

Poison in Celery.—Dr. Charles M. Cresson, of Philadelphia, states that he has more than once found the typhoid bacilli in the juice that he has squeezed out of celery grown near Philadelphia.—*Annals of Hygiene.*

Professor Brucke, of Vienna, has retired from the chair of Physiology at the University. The selection of his sucessor has been placed in the hands of a committee composed of four of his late associates.

Tracing Epidemics through the Milk Supply.—An act has been introduced into the English parliament granting authority to the sanitary authorities to demand a list of his customers from any milk-dealer, in order to trace outbreaks of typhoid fever or other disease to their origin.

The Physician of the King of Spain, Dr. Ocana, has been raised to the rank of a grandee of Spain, in recognition of his successful management of his little patient's recent illness.

The South Carolina State Dental Association will hold its annual meeting in Charleston on May 13.

Leprosy in Mississippi.—Dr. Griffin, Health Officer of Jackson County, Mississippi, reported the existence of a case of leprosy to the State Board of Health at its recent session.

Dr. Isidore Labatut, who is supposed to be the oldest physician in the South, if not in the United States, recently celebrated his ninety-seventh birthday. He was born in New Orleans and received his medical education in Paris. He entered the French Army and served as surgeon at the battle of Waterloo. After the fall of the Empire he returned to New Orleans, and has practised there ever since.

The Sioux City Hospital.—A hospital association has been incorporated in Sioux City, Ia., the object of which is to build and maintain a hospital in that city. It is said that the medical control of the hospital will be entirely in the hands of the medical board, the financial management being entrusted to lay members. The hospital will be unsectarian.

Illinois College of Pharmacy.—A site has been secured on the corner of Dearborn and Twenty-fifth Streets, in Chicago, for the erection of new buildings for the accommodation of the Illinois College of Pharmacy and the Chicago Medical College.

Poisoning by Canned Beef.—An investigation into a number of cases of sickness on Staten Island has shown that they were due to poisoning by canned corned beef.

The Metric System of Weights and Measures.—At the last meeting of the American Association for the Advancement of Science, held at Toronto, Canada, September, 1889, Professor Wm. H. Seaman, Washington, D. C., Dr. Fred. Hoffmann, New York, and Professor Robt. B. Warder, Washington, D. C., were appointed a committee to promote the use of the metric system of weights and measures among professional men, and especially to secure its more general adoption by the physicians and pharmacists and the chemical and pharmaceutical manufacturers of our country. This committee has recently issued an address to the physicians and pharmacists of this country and Canada, urging upon them the adoption of this system. The metric weights and measures were legalized in this country by Congress in 1866, and are now in actual use by most students of natural history, by some scientific periodicals, by the graduates of our schools of civil and mining engineering, and especially by all scientists and chemists throughout the world, without regard to their mother tongue. They are also in exclusive use by the republics of Central and South America, so that the English speaking people are almost the only ones in the civilized world who have not adopted this system. "It is unnecessary," the committee says, "to expatiate on the advantages of the metric system of weights and measures. The identity of the single factor with our system of numeration, the perfect correspondence between measures of weight and capacity, its approval by a large majority of the nations of the world, and especially its actual use by scientists and chemists without exception, render its ultimate adoption by all arts dependent on natural sciences, and especially by medicine and pharmacy, a matter of necessity and certainty." The committee further recommends that schools of medicine cease to give instruction in the apothecary system of weights and measures, for which there is no longer any reason, and that in the schools of pharmacy the merits of the metric system should be presented with the prominence that its utility, and the near prospect of its adoption justify, in the best way to secure its immediate use as the exclusive system of weighing and measuring in medicine and pharmacy, and in the manufacturing arts correlative with them.

Dr. R. F. Weir has returned to this city after a brief trip to Europe.

Operations for the Relief of Hypertrophy of Prostate Gland.—Dr. William T. Belfield, 612 Opera House Building, Chicago, Ill., respectfully solicits information concerning unpublished cases of operations upon the prostate, especially for the relief of the so-called hypertrophy of the organ.

A Medical Candidate for Mayor.—Dr. Leavitt, of Butte City, Montana, is the Republican candidate for mayor of the city. His opponents admit that he is a good physician, but claim that that very fact unfits him for the position for which he is a candidate.

Leprosy in New Caledonia.—According to the Paris *Dix Neuvième Siècle* leprosy is increasing at an alarming rate in New Caledonia. Of the forty thousand natives it asserts that fully five thousand are suffering from the disease. A few Europeans have also been attacked. The authorities have recently established two leper colonies and will try to limit the further spread of the disease by enforcing strict isolation.

The Street Cleaning Department of this city has appointed three physicians to examine all applicants for positions on the force, to determine whether they are physically fit to do the work required.

International Medico-Legal Congress.—The President of the Medico-Legal Society has received the following letter from Secretary Blaine in regard to the proposed International Medico-Legal Congress to be held in this country in 1892:

DEPARTMENT OF STATE, WASHINGTON,
April 17, 1890.

Clark Bell, Esq., President of the Medico-Legal Society.
No. 57 Broadway, New York City.

DEAR SIR: I have received your letter of the 31st. ultimo, enclosing copies of circulars which you are sending to the various countries of the world, inviting co-operation for the Congress, which will be convened in 1892 in the United States, for the discussion of medical jurisprudence. The importance of such a gathering as you propose cannot, it would seem, be overestimated. The intelligent discussion of scientific questions, especially those which so closely affect the human family, by a body of gentlemen learned in medico-legal science, must prove of especial value, and should be worthy of every effort, which has for its mission the amelioration of the condition of mankind. My individual sympathy in the objects and purposes of your conference is very great, and I trust that the results of such a meeting as you propose may correspond to the aims you have in view, as I have no doubt they will. I am, dear sir, very truly yours,

JAMES G. BLAINE.

Medical Department of Niagara University.—The Commencement of this school took place on April 15th, at which time fifteen young men were graduated. This school is one of those which have adopted a three years' graded course.

Diphtheria in an Insane Asylum.—There have been several cases of diphtheria among the inmates of the State Insane Hospital at Augusta, Me., and it is proposed to erect a wooden pavilion to facilitate the isolation of the sick.

A New Medical College.—A building is about to be erected in Chattanooga, Tenn., for the use of the medical department of the University. The new college has just completed its first term.

The Utica Medical Library Association recently adopted a resolution endorsing the bill now before the Legislature providing for a single medical examining board. In addition to endorsing the bill, the meeting voted to request the senator and assemblymen from Oneida County to support it.

The New York Cancer Hospital, One Hundred and Sixth Street and Eighth Avenue, New York.—The New York Cancer Hospital is fulfilling the design of its liberal founders by a steady increase in its patronage and a corresponding expansion of its usefulness. It is now in its second year of work, and in its annual report just published gives the following gratifying exhibit: Two hundred and forty-one patients were admitted up to January 1, 1890, as against 278 recorded in the last report, 131 being free patients; 183 operations were performed, including 12 vaginal hysterectomies and 28 laparotomies. It should be noted that 69 per cent. of the deaths occurred in patients who were not operated upon, *i.e.*, who were incurable when admitted. All of these patients have had their sufferings relieved and their lives prolonged by careful treatment and nursing; in fact, no patient has been refused admittance, however hopeless her condition. The institution is a Cancer Hospital, and cases of malignant disease, however advanced, receive the preference, as was the original intention of its founders. It is entirely dependent upon the public for financial support as regards the current expenses, and its doors stand open to all sufferers from cancer, whether they are able to pay for their board or not. The corner-stone of the new male pavilion, given by the late Mr. John J. Astor in memory of his wife, the late Mrs. Charlotte Augusta Astor, and of Mrs. Cullum's memorial chapel, were laid in December, 1889, and work is being rapidly pushed on these buildings. It is hoped that the pavilion will be ready for the reception of patients early next winter. Mr. George C. Clark has been elected to fill the office of treasurer. All patients suffering from cancer, whose condition admits of cure or relief, will be admitted by the superintendent with the approval of one of the medical officers of the hospital. Patients who are too ill to present themselves in person will, on proper application, be visited and examined by one of the medical officers of the hospital. Patients living out of town should submit to the superintendent an application in writing, accompanied by a statement of their case by some responsible physician, before presenting themselves at the hospital. The charge for board in the wards and private rooms is at rates fixed by the executive committee. These rates include all expenses, except those of a special nurse. All charges may be remitted in whole or part by the executive committee, or, in the intervals of its meetings, by the superintendent. At present the charges for board are: $7 per week for patients in the wards; $20 per week for patients occupying single private rooms; and $15 per week for patients occupying double private rooms.

Cheapening Medical Services.—Eleven physicians in Cleveland, O., have offered to take charge of the City Hospital and give their services without compensation. The hospital is at present under the care of one physician, who receives a salary of $1,200, and his eleven generous confrères propose to take the burden off his shoulders and deprive him of his salary. It is said that one of the eleven has a charter for a medical college in his pocket, and if clinical facilities can be obtained, the new college will be established.

The Medical College of Guy's Hospital.—On Wednesday, March 26th, Mr. Gladstone opened the new buildings of the Medical College at Guy's Hospital, London, which afford accommodation, board, and lodgings for a certain number of resident medical students, with an increase of the working hospital staff. The college is built in quadrangular form of red brick, in what is known as a revised Elizabethan style. The front entrance, guarded by two handsome oak gates, is opposite the Maze pond gate of the hospital. The college is now finished and ready for occupation. It consists of dining-hall, reading-rooms, and gymnasium, all available for members of the students' club, and accommodations for the junior members of the staff at present lodged in the hospital, and for fifty resident students, with a suitable residence for Dr. Perry (Dean of the Medical School), who will be the First Warden of the College.

Failure of a Malpractice Suit.—Dr. W. S. Gleason, of Newburg, N. Y., was sued recently for alleged malpractice. He was called to see a man who had received some injuries while intoxicated. Examination showed that there was a dislocation of the shoulder complicated with fracture of the humerus. Dr. Gleason reduced the dislocation by a happy chance and then set the fracture. On the next visit, however, he found the dressings disarranged and the head of the humerus again dislocated. It was then impossible to reduce it. The man sued, alleging that the surgeon fractured the arm while attempting to reduce the dislocation. The jury found no cause for action and the defendant was acquitted. From the testimony presented, Dr. Gleason had evidently managed the case in a most skilful manner, and we congratulate him upon his escape from an unjust persecution.

The Ladies' Health Protection Association.—An association with this name has been formed in Brooklyn and has recently become a legally incorporated society. It intends, about the middle of May, to hold a conference to consider the best steps available and advisable for the purpose of interesting housekeepers in the proper disposal of garbage, in aiding to keep the streets clean, and in adopting measures for securing the effective execution of the Health Laws. An organization having a similar object has been in existence in this city for a number of years.

St. Luke's Hospital, Denver.—Plans have been perfected for the erection of a new building for St. Luke's Hospital in Denver, and about $135,000 has already been subscribed for the purpose.

American Students in Berlin.—The names of the American students lately dismissed from the Berlin University are Clarence Kellogg, Dr. William Porter, Dr. William A. Duranger, William Kelley, Richard Schulenberg, and David Jamieson. Dr. Hinschins, Rector of the Berlin University, was asked why that institution refused to recognize medical degrees conferred by American colleges. He refused to discuss the subject. Privy Councillor Klueffel said that American colleges differed so greatly, those of excellent standing existing side by side with bogus affairs, that the authorities of the University could not take the time and trouble to distinguish between them. Herr Schmitt, Curator of the University, said that probably the omission of American degrees from the register was due to the laxity of the American laws and regulations regarding the conferring of degrees. Meantime, the American physicians feel the position acutely, although they are fully recognized and highly esteemed by the medical society of the German capital.—*London Illustrated News.*,

Medical Saloon-keepers.—There is a lucrative opening for medical men in Iowa, not exactly as practitioners, however. The Iowa Legislature, which adjourned about the middle of April, passed what is called the Pharmacy bill, conferring upon physicians the right to dispense liquor, and placing upon them no restraint whatever. They do not need a permit, like the druggists, nor is there any supervision of their manner of prescribing in the sales they make. There are about 5,000 doctors in the State, and if this law is to remain in force the number of "docs" will soon be beyond computation.

Great Ormond Street Hospital for Sick Children.—On March 26th the corner-stone of the new, or "jubilee" wing, which will complete this hospital, was laid. The wing is called "jubilee" because the Queen contributed about one-fifth of the expense of its construction out of the children's jubilee tribute in 1887.

A Medical License to Marry.—Dr. J. M. Emmert, President of the Iowa State Medical Society, delivered an address at the annual meeting of the society, on April 16th, in which he advocated compulsory medical examination of those intending to wed, and held that no licenses to marry should be granted except on a reliable physician's certificate that the parties desiring to wed are physically sound and qualified for the matrimonial relations. He also maintained that the discovery that either party is constitutionally diseased ought to be sufficient ground for securing a divorce.

A Hospital Condemned as Unsafe.—The Louisville (Ky.) City Hospital has been examined by a committee of architects and pronounced to be wholly unsafe, unhealthy, and in unfit condition for the reception of patients or for anybody else. The committee found that the wood flooring was rotten, and in several of the stories had settled at least two inches. They also said that the elevators and everything connected therewith were in bad condition, and they advised that the building be torn down before it fell down.

Leprosy in San Francisco.—The Board of Health in San Francisco is busy discussing the problem of how to combat leprosy. The disease is said to be constantly making greater inroads upon the white population, and the advisability of establishing a lazaretto is seriously considered. At a recent meeting the Board appointed a committee to examine into the matter, to ascertain the cause of the rapid increase of leprosy, its contagiousness, the extent of its inroads upon the white population, and the best methods for its removal.

The New Haven Hospital.—Plans have been completed for the erection of a new wing for the New Haven Hospital. This extension was made possible by the recent acquisition of $50,000 from the Gifford estate. Owing to the crowded condition of the wards it was decided to build a ward for incurables. The extension will be 150 by 26 feet and three and a half stories, the same as the main building. It is intended to build so as not to exceed the $50,000 at command. As soon as the plans are approved a move will be made toward advertising for bids, and it is expected that the building will be well advanced by the end of the summer.

The Late Dr. John W. Jackson, of Kansas City, whose death we recorded a short time ago, was the first Vice-President of the American Medical Association.

Obituary.

FREDERICK A. KINCH, M.D.,

WESTFIELD, N. J.

Dr. Kinch died in Westfield, N. J., Sunday, April 27th, aged sixty-eight. He had been forty years a practitioner in that neighborhood, where he commenced and ended his professional career. Dr. Kinch lived beyond the average age of physicians, which is nearer sixty than seventy years. His life was a successful one, in many ways. He was the architect of his own fortunes, and whatever he accomplished, to him alone the credit was due.

He was a diligent, hard worker for all these forty years, in a hard profession, and in a practice extending over a wide territory. He accumulated a fortune, and on moderate fees. He was active in public affairs, doing much all his life in the interests of the public; a man highly esteemed and trusted by the community in which he lived. His death is a great loss to the profession, to his patients, and to society. He leaves a widow and two sons, their only children, Charles A. Kinch, M.D., of New York City, and Frederick A. Kinch, M.D., of Westfield, both engaged in the practice of medicine.

To live an unspotted life for sixty-eight years, to practise medicine for forty years of that time, and accumulate by industry and frugality a fortune for his surviving family, leaving two sons educated practising physicians, is much to show at the close of the life of an M.D.

C. B. R.

HENRY V. HULL, M.D.,

SCHENECTADY, N. Y.

Dr. Henry V. Hull died of tuberculosis at his home in Coeymans, N. Y., April 27th, aged thirty-eight. After graduating from the Albany Business College, he obtained his medical degree from the Medical Department of Union College in 1874, and became Medical Interne of the City Hospital at Albany. He then removed to Schenectady, where he continued to practise until stricken with disease. He maintained a high rank among his confrères, who mourn his untimely end.

Society Reports.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, April 21, 1890.

GEORGE T. HARRISON, M.D., PRESIDENT.

Recent Criticisms on Credé's Method of Placental Expression.—DR. W. T. LUSK read the paper. Before the introduction of the Credé method the profession was divided, with reference to placental expression, into two classes, namely, those who believed, except in cases of hemorrhage, that the placenta should be left to nature, and those who made traction on the cord. We now know, however, that the introduction of the hand, and traction on the cord are attended by certain dangers, including infection, while mere passivity renders hemorrhage more probable. The Credé method consists in first applying light and afterward stronger friction to the fundus of the uterus, until an energetic contraction is obtained. At its height the uterus is grasped so that the fundus rests in the palm of the hand, and the body is pressed between the thumb and fingers. The effect of external pressure thus exerted is to force the placenta from the uterus, or, in case of failure, the process is to be repeated. In experienced hands it is likely to be expelled by the third or fourth uterine contraction.

As compared with old methods, the reader said, it consisted essentially in the substitution of external manipulation for the internal use of the hand. He had found no obstetrical manœuvre which he delighted as much in when teaching the young practitioner. But within the last few weeks a statement had been going the rounds of the medical journals, to the effect that Credé himself had abandoned the method. It was, however, anonymous, and seemed to be entirely without foundation. It was true that during the last ten years many protests had been made against early disturbance of what had been regarded as the normal forces, by means of which expulsion of the placenta was effected. After briefly reviewing some of the recent criticisms of Credé's method, the author said that, in his opinion, the only question at issue was whether the method was physiologically justifiable, and what interpretation was to be placed upon Credé's advice to express the placenta as soon as possible after the birth of the child. Statistics showed that the method did not increase the quantity of blood lost, and that unless resorted to too early it did not produce tearing and retention of the membranes, and if this latter accident should occur, it would not, with rigid antiseptic conduct of the labor, enhance the risks of puerperal fever. It seemed tolerably clear that, in most cases, the first fifteen or twenty minutes after the birth of the child the placenta left the uterine cavity either in whole or in part, and then offered all the conditions favorable for expulsion. But if left to the unaided efforts of nature, long delay usually took place after the placenta had sunk into the lower uterine segment, so that it was a good rule, accepted of late by Credé likewise, not to resort to external manipulations until at least fifteen minutes had expired; some advocated a delay of thirty minutes.

According to Dr. Lusk's experience, when, as a result of expulsion, the placenta appeared at the vulva, the uterus often contracted and became hard while a considerable portion of the membranes were yet in its cavity, and hasty traction would be likely to tear off a portion of the placenta.

DR. A. P. DUDLEY would simply steady the fundus of the uterus for fifteen minutes after the birth of the child, and then resort to Credé's method.

DR. JOSEPH KUCHER had never found any of the drawbacks to Credé's method which had been mentioned by its critics.

DR. H. J. BOLDT also strongly approved of the method, and regretted that some men did not appreciate it, because not using it carefully and properly. As to the retro-placental clot, he did not believe it took place before the birth of the child, but he had observed it both where Credé's method was practised and where the case was left entirely to nature.

DR. MCLOUD thought the Credé was the ideal management of the third stage of labor, DR. OBERNDORFER practised it, while DR. BROWN expressed himself as more disposed to trust in nature, and DR. AXETEL inquired how long expression should be tried before introducing the hand to clear the uterus of the membranes.

THE PRESIDENT thought the position assumed by Dr. Lusk was unassailable. As to the method of expulsion of the placenta, he believed in some cases it descended edgewise, and that in others blood-clot formed behind it according to the mechanism explained by Schultze.

DR. LUSK said, in closing the discussion, that, while some of the leading men in Germany almost prohibited the Credé method, yet he thought the accidents attributed to it, such as post-partum hemorrhage, retention of the membranes, and puerperal fever, had no foundation. As to how long the Credé method should be practised, he said that personally he could succeed in expressing the placenta during the course of three or four uterine contractions in ninety-nine cases out of a hundred. Where there was adherent placenta, and expression could not be effected in three or four pains, he would not hesitate to pass up his hand and remove it.

Pink Eye.—DR. J. HERBERT CLAIBORNE read a paper on this subject. He first described the clinical features of the disease at the height of the attack. The lids are swollen and red, varying directly with the severity of the inflammatory process; the veins of the upper lid are often visible; the edges of the lids are covered with yellowish, sticky secretion; the lashes bound together; often a bead of yellowish dry matter lies in the inner corner of the eye; the lids may be glued tightly together in the morning. Depressing the lower lid and turning back the upper, one will find the mucous membrane red, swollen, succulent, bathed in secretion. In the bottom of the sac are strings of yellowish-white matter; in many cases there are granulations of the lower lid. The eye is pink in all cases in which it is not red, but the author thought the name red eye more appropriate than pink eye. The blood-vessels of the subconjunctival region and the superficial ones are congested. The cornea is rarely affected. When affected it is only phlyctenular, the deeper structures of the ball not being involved. On the whole, the general characters of the disease are catarrhal. Usually only one eye is first affected, later the other also. Severe cases are always attended with coryza, and frequently by inflammation in the frontal sinus. Systemic depression, with fever and sleeplessness, are not infrequently present. There is but slight photophobia. As the severe stage passes, the eye shows less catarrhal influence; the pink fades away; the majority of cases recover in from four to six weeks. The prognosis for sight is good.

All observers were agreed in considering pink eye a distinctly catarrhal process. Dr. Claiborne stated that all cases were contagious, most of them infectious, and as to name, he thought the most appropriate was acute catarrhal infectious conjunctivitis. The diagnosis was not difficult, and as to treatment, most cases would recover of themselves within four to six weeks if the patients were attentive to personal cleanliness and hygiene. Yet rational mild treatment would facilitate recovery, while harsh treatment would retard it. As far as possible members of a family having the disease should be separated from others; children should be kept from school. As a rule, a month was sufficient time for quarantine. As to topical treatment, he believed cold applications to be best, at least in the acute stage; ice-cold pledgets from borax water—a teaspoonful to half a pint or a pint of water—applied to the lids several times a day. If granulations were present some astringent might be called for. Regarding the etiology, it had remained for Dr. Weeks to claim that pink eye was due to the pres-

ence of a small bacillus in the conjunctival sac which differed from all other bacilli yet found; but a pure culture had not been made, and the author expressed doubts regarding this origin of the affection. He referred to an epidemic which had started from two boys who appeared to have got the disease while bathing in the North River.

His conclusions were as follows: Pink eye is an acute catarrhal disease of the conjunctiva. It is usually infectious; always contagious; sometimes sporadic. The cause is undetermined, but is evidently an entity transmissible through the air and communicated by contact. The prognosis is good. The duration of the disease is four to six weeks. The treatment is by cold, antiseptics, mild astringents, salves.

Dr. N. J. Hepburn did not recollect to have seen as severe a case of pink eye as had been described in the paper. The cases which he had seen were without discharge, or with very little; nor did he recall a case in which there was swelling of the lids or granulations. Most of the cases got well without special treatment. At one period there would be a considerable number; and at others none.

Dr. John E. Weeks discussed points raised in the paper at some length. The granulations of the lower lids spoken of were not the true granulations of trachoma, but were simple inflammatory hypertrophy of the papillæ. They disappeared in a short time as the disease subsided. He thought those acquainted with the experiments made with the small bacillus discovered by him, and referred to in the paper, must become convinced that it was the cause of pink eye. He had lately succeeded in making a pure cultivation of it, of which he exhibited photographs. The author had criticised the suggestion to use secretions of pink eye for inoculations in trachoma. Dr. Weeks said he had not made the suggestion with the idea of acting on it himself, but for the benefit of those who were using inoculations of more destructive agents.

TENNESSEE STATE MEDICAL SOCIETY.

Fifty-seventh Annual Meeting, Held in Memphis, Tenn., April 8 and 9, 1890.

The Society was called to order by the President, Dr. Duncan Eve, of Nashville, at 10 A.M.

The Address of Welcome was delivered by Dr. D. D. Saunders, of Memphis.

Incontinence of Urine in Children was the title of a paper read by Dr. A. J. Swaney, of Gallatin.

The various causes of this affection he tabulated as follows: 1. Excessive acidity of the urine, which is usually caused by excessive formation of uric acid. 2. Over-irritability of the muscular coat of the bladder, even when the urine is neutral. 3. Weakness of the sphincter. In such a case the urine is not passed as rapidly, or in a full stream, as when the cause is in a forcibly acting detrusor. 4. From reflex action. Any source of irritation in or about the genital tract may be a cause of incontinence of urine. Local examination may discover a balanitis or adhesions between the prepuce and glans penis, with smegma around the corona. Two such cases had come under his observation in the last year. 5. Too great a quantity of urine, from the child drinking too large a quantity of fluids. 6. Vesical calculi. 7. Malformation of the bladder. Several cases have been reported where persistent and irremediable incontinence was induced by one or both ureters opening into the urethra. 8. Contraction of the walls of the bladder, owing to hypertrophy of the muscular layer reducing the capacity of the bladder to one or two ounces. This he found to be the condition of the bladder in a case which he would report. The walls of the bladder were contracted so much that the patient's bladder would not hold more than one and a half ounce of water.

Treatment of Incontinence of Urine.— This must depend upon the discovery of the proper cause in each specific case. Where the urine is highly acid it should be neutralized by the administration of alkalies. The acetate of potash is one of the best preparations for this purpose. Fruits often do well in children old enough to partake of them, as the vegetable acids are changed to alkaline bases in the system. Where the fault is from the detrusor acting too vigorously, belladonna serves as a specific. Five drops of the tincture of belladonna may be given three times a day at first and the dose increased by single drops, until there is some dryness of the throat and flushing of the skin. If the drug is to control the incontinence at all, it will do so when such effects are produced. For a lack of force in the sphincter ergot in full doses is indicated. A good effect follows the injection of five or six drops of the fluid extract of ergot into the connective tissue of the ischio-rectal fossa, as recommended by Dr. H. D. Chapin, of New York. In all cases of incontinence of urine everything possible should be done to tone up the nervous system, and to this end the speaker mentioned syrup of the iodide of iron and strychnine in full doses as being very valuable.

Dr. T. J. Happel, of Trenton, contributed a paper entitled "A Résumé of Surgical Cases in a Country Physician's Practice," in which he outlined his general method of procedure at considerable length, and then said that the nearest approach to what might be termed "ideal surgery" that it had been his lot to deal with, was one of his latest operations—the removal of what appeared to be a cancerous degeneration of a nævus or mole in an old lady, nearly ninety-three years of age. This tumor had attained to the size of a duck egg, was growing on the left temple, and had developed rapidly within less than six months. It was removed under chloroform on April 21, 1889, and the patient was dismissed cured on May 5th. There was no elevation of temperature, and less than one-fourth of a teaspoonful of pus was found.

In all his operations he used chloroform.

The speaker believed in antiseptic surgery, inasmuch as it forced upon us greater cleanliness, but he was not yet fully satisfied that the micro-organisms which are supposed to be destroyed by antiseptic lotions, etc., are the causes of the disease. They may be simply sequences. The disease may furnish them suitable pabulum upon which to grow, and they develop as a result of the disease. Perhaps, after all, the antiseptics only prevent the furnishing of this *tertium quid* on which the bacilli and micrococci grow and thrive.

Dr. G. W. Drake, of Chattanooga, read a paper on "The Triune Man," Dr. N. T. Dulaney, of Bristol, one entitled "Hypermetropia," and Dr. P. H. McKinnie, one on "Pneumonitis and its Treatment."

Endocarditis and its Differential Diagnosis, was the title of a paper read by Dr. J. A. Witherspoon, of Columbia, in which he said that the correct diagnosis of heart affections depends upon a thorough understanding of the anatomy and physiology of the organ. He then offered a plea for more thorough examinations, to satisfy ourselves what lesion of the heart exists. We should not be content with the unscientific diagnosis of "heart disease." It is the sacred duty of the physician to investigate thoroughly and closely before pronouncing the benediction on the activities of a man's life, by saying that he has organic heart disease. Endocarditis occurs in three varieties, viz., exudative, ulcerative, and interstitial. The speaker confined his remarks chiefly to exudative endocarditis, which occurs usually in those diseases in which there is marked dyscrasia of the blood, where that fluid is altered in its histological proportions or physiological elements, and especially in acute articular rheumatism, for it occurs in about thirty-three per cent. of such cases. It may occur in any disease in which there is a morbid state of the blood, such as the exanthemata, essential fevers, diphtheria, nephritis, pyæmia, etc. It may occur, as a primary disease, from exposure to cold, violent efforts, blows or other injuries to the chest, and it sometimes occurs without any discoverable cause. Its

most frequent site is upon and around the valves, hence the liability to the production of valvular troubles, and it is generally found upon the left side of the heart.

Diagnosis.—Endocarditis is usually associated with signs of acute pericarditis, swollen and painful articulations, and the acid sweats of rheumatism. The differential diagnosis between endocarditis and pericarditis would not be difficult, were they not so often associated together. In pericarditis we have no murmur, but a to-and-fro friction sound; the impulse of the heart is more feeble and distant, and in the later stage, marked enlargement of percussion dulness; the sounds of the heart are very feeble and muffled in pericarditis, whereas they are even more distinct—except at the site of the murmur—and normal, in endocarditis. The only other disease for which endocarditis may be mistaken, is aortitis, especially if the inflammation is in the first part of the aorta. The diagnosis between them is said to be very often impossible to make, the only distinguishing features being the increase of pain, which extends along the trunk of the vessel, with marked pulsation and a blowing murmur, which is transmitted in the direction of the blood-current, and a diffused sensitiveness of the arterial system.

Complications.—There are two complications of endocarditis which cause entire change of symptoms. One is, that the fibrin which deposits upon the inflamed endocardium may be so large as to form a clot, and if this clot is large enough, then symptoms of obstructed circulation to a most alarming extent manifest themselves by a condition of collapse; the skin becomes cold and cyanotic, the pulse thready and weak, and the heart's action exceedingly irregular, with great struggling for breath. The murmur becomes indistinct, and cardiac dulness is slightly increased; fainting spells alternate with nausea, vomiting, often delirium, and death comes on in a very short time and closes the scene of most terrible suffering. Then, too, we may have a small clot of fibrin or vegetation from the valves washed into the circulation and carried to different parts, when the well-known signs of emboli will appear.

Ulcerative endocarditis is usually septic in its origin and is of rare occurrence. This fatal type of the disease is manifested by great prostration, with marked typhoid symptoms, irregular chills, profuse sweats, extremely rapid pulse, dry red tongue, muttering delirium, followed by vomiting, diarrhœa, deep jaundice, and stupor; marked tenderness is found over the liver and spleen by palpation; great dyspnœa with Cheyne-Stokes respiration, and a scanty, highly colored albuminous urine.

Dr. Duncan Eve, of Nashville, delivered the presidential address. He selected for his subject "Recent Progress in our Profession." He said the valor, the prudence, the wisdom, the patient industry, the zeal, the accurate observation, the critical examination, the continuous contemplation, the superior learning, and the great ability engaged in the advancement and development of this department of our science and art, have been crowned with the happiest results. What heretofore would have startled, now becomes commonplace. What once defied the utmost powers of the imagination to conceive, now becomes the real occurrence of every-day life.

Surgery has taken old and familiar agencies, and found in them either a new value, or discovering their worthlessness, has used and applied others in their stead. It has invented new instruments and appliances, and found new and better uses for those heretofore known. It is continually enlarging its province, and ascertaining and defining its boundaries.

Dr. Bayard Holmes, of Chicago, read a paper on "Secondary Mixed Infection in Scarlet Fever." He said that no one doubts to-day that scarlet fever is due to an obligate parasite, and the fact that this parasite has not been cultivated on artificial media and studied is due to the fact that it has become so perfectly adapted to the human host that it can exist in no other, and on no artificial media. It must be studied in the same manner as the *plasmodium malariæ*. Everything points to the fact that scarlet fever is a septicæmia self-limited in its nature, finding its atrium of invasion in the pharynx and probably in the tonsil, and manifested by all those symptoms which characterize septicæmias of other kinds. One of the most frequent symptoms of an unfavorable course of scarlet fever is the enlargement of the cervical lymph-glands. These glands are found crowded with chain cocci, and the same condition may be traced to the tonsils and the walls of the pharynx, the connective tissue of which is found crowded with the same streptococci.

Phenic Compounds in Germ Diseases.—Dr. W. F. Glenn, of Nashville, read a paper with the above title. He said, by the experiments of Pasteur and Tyndall and others, the fact that many, if not all diseases, are due to the presence and active development of living germs in the system, has been thoroughly established. The development of germs in the living system is as properly called fermentation, as is a similar process in the wine-vat in the formation of wine. If any agency be employed which directly lessens the fermentive process, just in the same proportion is the temperature lowered, and *vice versa*. So we find in the human being, in all zymotic diseases, when the fermential microbe is introduced into the blood, there finding its natural element, its development or multiplication begins and an immediate elevation of temperature takes place. Just in proportion to the activity of this multiplication of disease cells, their rapidity of development, so is the fever higher and the symptoms graver.

If we can introduce into the blood or apply to a given part any substance that will destroy the life of these disease germs, we will have reached a perfection of scientific treatment.

From the experiments of Dr. Calvert, it is known that the salts of quinine, in solution, will destroy all vegetable fermentation, the salts of mercury in solution all animal fermentation, and a solution of pure carbolic (phenic) acid both. Can we put a sufficient amount of carbolic acid in the blood to arrest and prevent the growth of disease germs with safety to our patient? Yes. The accidents heretofore attributed to the administration of carbolic acid have been due to its impurity more than to the quantity given. If absolutely pure, it is a safe and efficient remedy; if in the least degree impure, it is a very dangerous one.

Dr. Glenn has used Dr. Declat's preparations of phenic acid, both internally and externally, with gratifying results, for the last ten years. During this time he has employed phenic acid as his chief remedy in all cases of malarial, typhoid, and scarlet fevers, diphtheria, erysipelas, blood poisoning, as a local application to all wounds, whether the result of accident or surgical operation, and has found the result so satisfactory that there is little left to be desired.

Since he has been following this plan of treatment, in typhoid fever, for example, he has never had a diarrhœa occur in any of his patients; never a hemorrhage from the bowel; never a serious tympanites; never a death. He believed that with phenic acid, and antifebrin as an aid, physicians possessed the treatment, *par excellence*, of all zymotic diseases.

Dr. B. P. Key, of Chattanooga, read a paper entitled "Report of Seven Cases of Ovariotomy in the Last Year."

In these seven cases he had had but one death. The history of this case was as follows:

Mrs. H——, aged thirty-five; married about ten years; mother of three children. During the last three years she had suffered intensely from dysmenorrhœa; general health impaired, and the best part of the time was spent in bed; she had constant pains in the right and left ovarian regions. He stated to the patient's family that there was no chance to save her life, except by doing a laparotomy. She readily consented to undergo the operation. For the first twenty-four hours after the operation, she appeared to rally and continued to improve until the fourth day had passed, when the heart commenced beating very

rapidly, and she at once became very restless. The ovaries were enlarged and contained pus. Patient died on the fifth day.

Dr. F. T. Smith, of Chattanooga, read a paper on "Blindness," which was followed by a contribution on "Eye Symptoms in General Medicine," by Dr. J. L. Minor, of Memphis.

Dr. J. S. Cain, of Nashville, read a paper on "The Use and Abuse of Antipyretics."

The condition of pyrexia is the result of two distinct processes, one the increase in heat production, the other a decrease in heat dispersion, acting either singly or together. When in health or in a physiological state, these two processes exist in such harmony and perfect equipoise, that no matter what may be the circumstances surrounding the individual, the body temperature remains practically at the same standard of 98.5° F., which we term normal temperature.

Certain disease producing agencies, gaining admission into the economy through the lungs, stomach, or other avenues of invasion and acting through the nervous system, interfere or destroy this equalizing process, and result in the accumulation of an undue amount of heat in the tissues and blood, and constitute the condition usually termed fever, to which is attached so much importance as a factor in disease.

That there is danger from long-continued hyperpyretic temperature he had no doubt. But the symptoms of degeneration of the various organs above mentioned seem—to use the language of Dr. von Ziemssen—"not to be the effects of high temperature, but coincident effects of the cause of the fever, and the cause is infection."

Dr. Cain was convinced that pyrexia is not only most often an unimportant factor in disease, which does not require any special treatment, but that sometim s and in certain characters of fever, it is one of nature's efforts at repair which should be encouraged, and to combat or antagonize it, in the sense of arresting its generation, is to try to defeat the very conservative and reparative processes by which nature is struggling to preserve the life of the patient.

Antipyretic Remedies.—These are very properly divided by Dr. Brunton into two main classes, those which lessen the production of heat, and those which increase its loss. The first class is subdivided into those remedies which lessen production by arresting tissue metamorphosis. At the head of this class stands quinine; also those which lessen oxidation by controlling the circulation and cutting off the oxygen supply which is furnished alone by the blood. These are usually nerve and heart sedatives, and means which retard the active flow of blood.

Antipyretics are again divided into general and local remedies. Under the head of the former class (leaving out venesection, now no longer practised) may be mentioned antimony, ipecac, aconite, veratrum viride, gelsemium, and the new and just now much used products of coal tar, antipyrine, antifebrine or acetanilid, phenacetine, and others. The therapeutic action of these latter remedies in controlling temperature is not well understood, but when we consider their direct depressing effects upon the medullary and spinal centres, and observe the marked cyanosis nearly always attending their free administration, the conclusion is almost irresistible that they retard oxidation, and by their powerful sedation lessen the supply of oxygen to the tissues, like the other agents mentioned, and lower temperature by arresting combustion.

The following papers were also read:

"The Abuse of Quinine," by W. C. Bilbro, M.D., of Murfreesboro; "Suppurative Inflammation of the Middle Ear," by J. G. Sinclair, M.D., of Nashville; "Fractured Thigh: Easy Method of Treatment without Long Splint or Pulley," by J. W. Davis, M.D., of Smyrna; "Hysterectomy for the removal of a large Subperitoneal Fibroid," by W. E. Wilson, M.D., of Pulaski; "Fracture of the Lower End of the Radius with Complications," by J. W. Brandon, M.D., of Stribling; "Foreign Body in a Child's Stomach," by S. W. Sanford, M.D., of Henning; "The Importance of Early Treatment in Middle Ear Disease," by N. C. Steele, M.D., of Chattanooga; "Euplis, with Report of Five Cases," by W. B. Rogers, M.D., of Memphis.

Officers for 1891.—*President*—Dr. G. A. Baxter, of Chattanooga; *Vice-Presidents*—Drs. S. W. Sanford, of Henning; W. G. Ewing, of Nashville; N. T. Dulaney, of Bristol; *Secretary*—Dr. D. E. Nelson, of Chattanooga; *Treasurer*—Dr. J. P. C. Walker, of Dyersburg.

Place of next meeting, Nashville, Tenn., second Tuesday in April, 1891.

Correspondence.

THE ACTING ASSISTANT SURGEON'S BILL.

To the Editor of the Medical Record.

Sir: As I have received such a large number of letters from members of the medical profession inquiring about Senate Bill No. 1096, and House of Representatives Bill No. 603, entitled a bill to fix the status of the Acting Assistant Surgeons, United States Army, who served in the late war, and as I find it difficult to answer the large number of letters I have received asking information about it, I trust you will permit me to reply to them through the Medical Record.

Accompanied by Drs. Henry A. Robbins, Past Medical Director G. A. R. Department of the Potomac, and Henry E. Woodbury, I called on the Secretary of War, General Redfield Proctor, who assured us that the bill appeared unobjectionable; we called to see the Assistant Secretary of War, General Grant, who informed us that he was well acquainted with some of our corps, and that they were "very good men, indeed." We called at the Surgeon-General's office, and, although not having had the pleasure of meeting Surgeon-General Moore, we met Dr. Greenleaf, Surgeon, United States Army, who regretted the absence of the Surgeon-General, but assured us that the Surgeon-General and all the surgeons of the army were friendly to the bill, and that there was not a surgeon or assistant surgeon in the army, who are now serving, that was not an acting assistant surgeon.

We called on the Military Committee of the House of Representatives and explained our case. We were very friendly received by the members, and the following telegram will show the amount of friendship and interest shown us, viz.: "Washington, D. C., April 22d. John T. Nagle, 300 Mulberry Street, New York. Military committee reported a substitute for your bill to-day. It grants substantially all you want. E. J. Dunphy."

Congressmen Dunphy, Cummings, Spinola, Turner (Iceman), of this city, General Post, of Illinois, McAdoo and Geissenhainer, of New Jersey, and several others, we had the pleasure of meeting, and after explaining the bill, they took quite an interest in its passage. The only members of the Committee on Military Affairs of the Senate we met were Senator Davis, of Minnesota, and General Manderson, of Nebraska. Senator Davis unhesitatingly stated that he would vote for it, and General Manderson stated also that he would vote for it. We failed to meet General Hawley, the chairman of the Senate Committee on Military Affairs, as he was attending a meeting of the Loyal Legion, at Philadelphia. We were very pleasantly received by Surgeons Greenleaf, Billings, and Matthews, United States Army, and by several Congressmen and United States Senators in addition to those above mentioned. The original Senate Bill No. 1096, which was printed in the Medical Record on February 1, with slight modification, appears to be in a fair way of passing, and I think that with a little effort on the part of those interested, there will not be much doubt of its passing both houses. Very respectfully yours,

John T. Nagle, M.D.

April 23, 1890.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 20 to April 26, 1890.

La Garde, Louis A., Captain and Assistant Surgeon. Upon surgeon's certificate of disability leave of absence for twenty-three days, on account of sickness, granted, in extension of leave of absence for seven days granted him by order No. 70, Fort Assinniboin, Mont., with permission to apply to the Adjutant-General of the Army for an extension of one month on surgeon's certificate of disability. S. O. 43, par. 4, Department of Dakota. April 14, 1890.

Raymond, Henry I., Captain and Assistant Surgeon, Newport Barracks, Ky. Granted leave of absence for twenty five days, to commence on or about May 2, 1890. S. O. 91, par. 5, Division of the Atlantic, April 19, 1890.

Kilbourne, Henry S., Captain and Assistant Surgeon. By direction of the Secretary of War, transferred from Vancouver Barracks, Wash., to Willet's Point, N. Y. S. O. 93, par. 1, A. G. O., April 21, 1890.

Gray, William W., Captain and Assistant Surgeon. By direction of the Secretary of War, transferred from Fort Maginnis, Mont., to Fort Sherman, Idaho. S. O. 93, par. 1, A. G. O., April 21, 1890.

Banister, John M., Captain and Assistant Surgeon. By direction of the Secretary of War, transferred from Fort Sherman, Idaho, to Fort Stanton, N. M. S. O. 93, par. 1, A. G. O., April 21, 1890.

White, Robert H., Major and Surgeon, now on duty at Fort Myer, Va. By direction of the Secretary of War, will report in person to the Superintendent of the U. S. Military Academy, West Point, N. Y., for temporary duty as post-surgeon during the absence of Major Henry McElderry, Surgeon, as a member of the Army Medical Board, New York City. Upon the return of Major McElderry to duty at West Point, Major White will return to his proper station. Par. 4, S. O. 94, Headquarters of the Army, A. G. O., April 22, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending April 26, 1890.

Scofield, W. K. Commissioned a Medical Director from February 8, 1890.

McMurtrie, Daniel. Commissioned a Medical Inspector from February 8, 1890.

Bogert, E. S. Commissioned an Assistant Surgeon from April 16, 1890.

Spratling, L. W. Commissioned an Assistant Surgeon from April 16, 1890.

Martin, H. M., Surgeon. Reported his return home and granted sick leave.

Woolverton, T., Medical Inspector. Detached from Navy Yard, Washington, D. C., and wait orders.

Beyer, H. G., Passed Assistant Surgeon. Ordered to delay reporting on board the Yantic until further instructed.

Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the two weeks ended April 19, 1890.

Fessenden, C. S. D., Surgeon. To proceed to Marion, Ky., on special duty. April 16, 1890.

Guiteras, G. M., Assistant Surgeon. To report to the Superintendent of Immigration, New York, for special duty. April 12, 1890.

Bailhache, P. H., Surgeon. Detailed as chairman of Board for physical examination of officers of Revenue Marine Service. April 12, 1890. To proceed to Portland, Ore., Tacoma, Seattle, and Port Townsend, Wash., as inspector. April 16, 1890.

Hutton, W. H. H., Surgeon. Detailed as chairman of Board for physical examination of officers of Revenue Marine Service. April 10, 1890.

Long, W. H., Surgeon. To proceed to Marion, Ky., on special duty, relieving Surgeon Fessenden. April 18, 1890.

Kalloch, P. C., Passed Assistant Surgeon. Detailed as recorder of Board for the physical examination of officers of Revenue Marine Service. April 12, 1890.

Magruder, G. M., Assistant Surgeon. Detailed as recorder of Board for physical examination of officers of Revenue Marine Service. April 10, 1890.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 26, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	8	2
Scarlet fever	76	7
Cerebro-spinal meningitis	1	3
Measles	312	32
Diphtheria	120	29
Small-pox	0	0
Varicella	7	0
Cholera	0	0

An Advance in Microscopic Objectives.—At the meeting of the Royal Microscopical Society of England, recently, it was announced that Dr. E. Abbe, of Jena, had presented to the Society one of the new apochromatic one-tenth microscope objectives recently produced at Zeiss's optical works, Jena, under Dr. Abbe's superintendence. The speciality of the new objective is that the aperture is the highest hitherto attained, being designated of 1.6 N.A., whereas the highest point previously reached by Dr. Zeiss was 1.4 N.A., so that the clear gain of aperture is twenty per cent. It is understood that the new construction embodies the use of fluorite in place of crown glass in one or more lenses of the combination, by which a higher degree of achromatism is attained than that of ordinary achromatic objectives. The new objectives are hence designated "apochromatic," and their employment in photomicrography has demonstrated their great practical superiority over objectives of ordinary "achromatic" construction.

Doctors' Fees.—The editor of *Truth* has published the following very sensible observations on doctors' fees: "It is a source of constant regret to me that I cannot agree with all my correspondents. I trust, however, that none of them will ever think the worse of me for failing to fall in with their views. Here, for instance, is a gentleman who invites me to administer a rebuke to an East End doctor, who figured at a recent inquest. The offence was this: 'On being called to the deceased man, who had met with a bad accident, the doctor stated that his fee was 2s. 6d. He was informed that the money would not be forthcoming till later in the day. Thereupon he retired, and the patient was taken to the hospital, where he died.' Now, it so happens that in this case the doctor's refusal to attend was shown to have in no way hastened the man's death. Apart, however, from that consideration, how can the gentleman be blamed? An East End medical practitioner is presumably not practis-

ing as a philanthropist, but earning a very modest livelihood by very hard work. It is just as necessary for him to refuse to give advice gratis as it is for a baker to refuse to give bread to every starving man who may look in at his window. What I would suggest is that, in cases where medical assistance is urgently required, and the patient is too poor to pay for it, the doctor should be allowed afterward to recover his fee from the parish."

Vaccinating against the Poison Ivy.—As the summer season approaches and *rhus toxicodendron* begins to thrive, there is a large number of persons who will take an interest in the statement that an immunity against this plant can be secured. At least it has been done in one instance, related by Dr. John Aulde in the *New York Medical Journal*. He says that Dr. George Kirkpatrick, of La Harpe, Ill., took by mistake a good swallow of the tincture, and in order to counteract the effect of the poison, large doses of olive-oil were administered, and along with it about ten grains of carbonate of sodium. No immediate unpleasant effects were observed until the second day thereafter, when it was found that there was complete desquamation of the cuticle, and since that time he is proof against the poison of the plant.

Do Doctors Catch Infectious Diseases?—An idea prevails that physicians largely escape infectious diseases to which they are exposed, to an extent for which sanitary precautions do not wholly account; in other words, that there is something mysterious and unexplained about it. The fact is that they do not escape. Death-rate comparisons show that deaths among physicians from infectious diseases are much above the normal, as determined from life insurance statistics, while the death-rate among clergymen from the same causes is very much below it.

Circumcision and Heredity.—In connection with the subject of inherited malformations recently referred to in the MEDICAL RECORD we may cite the following, which appeared some months ago in the New York *Medical Journal*. Dr. Levy, a dentist of Stettin, has written to the Editor of the *Archiv für pathologische Anatomie una Physiologie und für klinische Medicin*, an account of some occurrences in his own family that have a bearing, he thinks, on a question raised by Professor Weismann at the sixty-first *Versammlung deutscher Naturforscher und Aerzte*—that of the hereditary transmission of acquired peculiarities, such as the lack of a foreskin in Jews. He states that, like his father before him, he was born without a foreskin—as he expresses it, "regelrecht beschnitten"—furthermore, that this was the case with his four brothers also, who died in childhood. An occasional natural Apella is to be met with among Gentiles, but this, of course, raises no question of heredity; such a group of them as Dr. Levy's communication mentions is a different matter, however, although not a very convincing evidence of evolution.

Abdominal Surgery in Cuba.—At the Medical Congress recently held at Havana, Dr. Barrena presented a communication containing statistics of abdominal surgery in Cuba up to that date. The operators were Drs. Cabrera Saavedra, Plasencia, Casuso, Horstmann, Menocal, R. Tovor, and himself. The following are the figures given by Dr. Barrena: Ovariotomies, 39, with 27 cures and 12 deaths; hysterectomies, 11 cured with 2 deaths; myomotomies, 3, all cured; exploratory incision, 4, with 3 deaths; salpingotomies, 3, all cured; vaginal hysterectomy, 1, fatal; ligature of the Fallopian tubes, 1, cured; total 62 operations, with 37 cures and 25 deaths, showing a mortality of more than forty per cent. One of the speakers in the discussion which followed said such statistics testified against the operators more than against the operations. He expressed gratification that what he called the *furor operatorio* was subsiding in Cuba.

Vivisection at Clark University.—Mr. George T. Angell, president of the Massachusetts Society for the Prevention of Cruelty to Animals, has had his agents, at different times, investigate the charges made that the vivisection at Clark University, in Worcester, was cruel and unlawful. They report that since the opening of the university seventeen dogs and a less number of cats have been operated upon, but not in a single instance without the use of anæsthetics. No operation has been performed to prove any fact before established. All the animals, except in very few instances, have been despatched as soon as the operations were performed, and before they became conscious.

A Case of Necrosis of the Jaw, Following Measles.—Necrosis of the jaw occurs after eruptive and other fevers, especially after scarlatina, and is more frequently seen in children from three to eight years old, a period at which these parts must supply nourishment both for the permanent and for the deciduous teeth. It appears usually as the fever subsides, and is ushered in by pain and swelling about some part of the gums, which leads to suppuration and death of the bone. This necrosis does not, as a rule, involve the body of the bone, but is limited to the alveolus. Both jaws are equally liable to the affection. If a gap is left permanently in the jaw, the opposing jaw may grow so as to fill up the deficiency. Thus, in a case recorded by Bryant, the lower jaw grew nearly an inch higher than natural to compensate for the loss of substance in the upper jaw. In the "Transactions of the Iowa State Medical Society," vol. vii., Dr. McCarthy relates a case which occurred in his practice in 1887. He was called to see a boy, eight years old, of a healthy family, who had broken out with measles the day before. As the case was mild he gave no drugs, but asked to be called if complications arose. Three days later he found the patient with severe pain in the left ear and jaw, swelling and redness of the jaw, and capillary bronchitis well marked in both lungs. A laxative was given, with quinine, carbonate of ammonia, and whiskey, and hot dry applications were made to the jaw. During the next four days all the teeth of the left upper jaw were removed, as they had become loose and were protruding from the jaw. There was a very foul odor, and the scanty pus was swallowed by the patient, except so much as was removed by syringing with bichloride solution, 1 to 2,000. The fever now decreased from 103°F. to 99° F., the boy feeling better. A week later a piece of loose bone, supposed to be the left upper alveolar process, was taken away, and iodide of potassium was given with tonics. Five weeks afterward, as the local disease continued, in spite of improvement in the general health, chloroform was given and, by the aid of forceps, "the left superior maxillary bone was removed from the median line to the zygomatic fossa, including all the alveolar process, and up to the infra orbital foramen on the facial surface and to the palate bone on the internal surface, leaving only the orbital surface. The palate bone was left intact." Three weeks later the alveolar process of the lower jaw on the left side was removed with the loose teeth attached to it, leaving only the last bicuspid and the bit of bone in which it was inserted. At the end of the third month after this operation the boy presented no deformity of the face, except a drawing of the lips toward the left when he tried to laugh or whistle. The superior maxillary had been reproduced and three teeth were making their appearance—an incisor, a canine, and a bicuspid. In the lower jaw all the old teeth that were removed had been replaced by new ones, and the old bicuspid still remained. Dr. McCarthy states that although cases are recorded where bony structures (especially the inferior maxillary) have been reproduced, he finds no instances in which teeth have been reproduced in the upper jaw, nor where the superior maxillary has been replaced. His case is remarkable on account of the rapid destruction and separation of the parts, their almost complete reproduction, and the absence of any marked deformity.

Madrid has one physician to every 700 of its inhabitants.

Notification of Vital Statistics. — At the meeting of the New York City Board of Health, recently, a resolution that the counsel prosecute persons who have failed to report births, marriages, and deaths within the proper time was adopted.

A Mother at Thirteen.—A precocious girl of thirteen years and eight months is reported to have given birth to a male child recently in the Vienna Foundling Hospital. The infant was very small, weighing less than three pounds, and although born alive, it is so weak that the doctors hold out but little hope to the mother that she will succeed in rearing him.

The Physiology of Taste.—The localization of the different forms of taste sensations is a subject which is usually cursorily passed over in text-books, with the statements that the posterior third, the tip, and sides of the tongue only are sensitive, that sweet substances are best perceived by the tip, bitter ones at the back, and so on. In the *Centralblatt für Med. Wissen.* is an abstract of interesting observations by Oehrwall, who, by the aid of a lens, stimulated the individual papillæ by means of a fine brush dipped in solutions of sugar, quinine, acetic acid, and salt. He found that, as had before been observed, the circumvallate papillæ were particularly sensitive, but that on the sides and tip the fungiform papillæ only were sensitive. He estimated that in the whole tongue there were 350 to 400 of these papillæ, of which he found 125 only to respond to stimuli. Many of them appeared to be excited by all four of the substances employed, but in other cases papillæ were found to respond to one form of stimulus but not to another. Thus nineteen per cent. responded to acetic acid, but not to sugar; twenty-four per cent. which were sensitive to acid were unaffected by quinine, while fifteen per cent. which recognized sugar did not respond at all to the application of quinine. All of the papillæ were sensitive to touch, pain, heat, and cold. When stimulated by a mild faradic current, an acid taste only was excited. He confirmed the observations of older authors, that most of the anterior two-thirds of the dorsum of the tongue was devoid of gustatory papillæ.—*The Lancet.*

The Employment of Hypnotism for Physiological Investigation.—Dr. Segal is reported to have endeavored, by hypnotizing two female subjects, to decide the question whether there is a single oculo-motor centre for both eyes, or whether each eye has its own special centre. The right eyelid of the hypnotized individuals was raised, and it was suggested to them that they should keep the right eye immovable, and when this suggestion had been complied with it was further suggested that the left eye should be turned inward and outward. In one of the individuals this was accomplished, but no movements of the left eye in a vertical direction could be obtained, and no binocular divergence could be produced. The second patient could turn the left eye up or down and inward or outward, and here again no binocular divergence was perceived. Experiments on the reaction of the pupils were further tried on the first and on a third patient, by telling them that all around was black, and consequently nothing could be seen; this caused the pupils to dilate. Similarly, they contracted when it was suggested that the darkness had passed away, and that the sun now shone. Dr. Segal concludes from his experiments that each eye has its own oculo-motor centre, just as the other ocular nerves have, but that the two, in consequence of continual associated movement, are very closely linked to one another.

Barristers and Medical Charges.—The *Newcastle Chronicle* expresses surprise at counsel, Mr. Walton, objecting to the charges of Dr. Crosby for a fortnight's close attendance in a case of fatal injuries from a tramcar, some of the visits being at night, and the wounds requiring dressing. The injuries included, we are informed, two fractures of the arm and a compound fracture of the foot. Twenty-eight visits were paid, and the charge was £21. Our contemporary thinks that if a barrister had to be called out at night he would be apt to require both larger fees and payment beforehand. We think so too. We need add nothing to our contemporary's excellent presentation of the case. We cannot withhold his pointed and brief contrast of the case of barristers and doctors. "As a rule, barristers have their fee beforehand; in many cases doctors are never paid at all. It has even sometimes happened that eminent counsel have pocketed fees for cases in which they have never appeared. Doctors have no such luck." Mr. Walton will perhaps be a little more careful when he has next to deal with medical fees in grave cases.—*The Lancet.*

Disease of the Heart Resulting from Emotional Causes.—Dr. Robert Lee writes as follows in the *Lancet*: "In the discussion which not long ago occurred at the Royal Medical and Chirurgical Society on the connection between chorea and rheumatism, a question of great importance was raised which has not yet received the attention it deserves: Is it possible for emotional disturbances, for fright, anxiety, or worry to cause disease of the heart? The question is one of rather wide interest, because the pathologist, the metaphysician, and especially the clinical observer, are equally entitled to deal with it. It will probably occur to those who have studied the etiology of Graves' disease that we should be prepared to find in this class of cases some evidence that disorder of the circulatory system may arise from purely emotional disturbance. A case was under my care in the year 1882, which I am induced to publish as contributing to the interesting question above referred to. The patient had been nurse in a family with which I was well acquainted. She was twenty years of age, a well-grown girl, with good family antecedents, and without history of any disease possibly effecting the heart. For eighteen months she had been gradually losing health and strength, and developing the symptoms from which she was suffering when I saw her. These were marked debility, slight anæmia, and troublesome palpitation of the heart. She could not walk without distress from breath-shortness; she had pains in the thighs and some swelling and induration of the tissues, such as to suggest phlebitis of the saphena or deep femoral veins. The cardiac pulsations were generally 140 per minute; they would rise to 150 if she got up or if she were the least excited. After rest in bed and treatment, pulsations diminished to 120 for a few days, but returned to the higher number. Thus she continued for two months, with little if any improvement in respect of the condition of the heart, though relieved of local pains and feeling generally somewhat stronger. Digitalis did not have any effect in this case, but small doses of opium at first quieted the heart. The cause which was assigned by the patient for this condition of ill-health was the following; and by evidence from other sources the absolute truth of her statement was confirmed. One day, when sitting in the nursery with the children, their father came into the room in a state of mental derangement, and seizing hold of the youngest, an infant, acted with the apparent intention of throwing it out of the window. The girl was so overcome by terror that, as she told me, she was unable to move or speak. From this occurrence she dated her illness. The case resembled in many respects one of Graves' disease, with the exception that there was no protuberance of the eye-balls or enlargement of the thyroid. The heart's action was regular, though rapid; the pulsation strong, and evident to the eye. There was also increased pulsation in the large arteries in the neck. There was a faint systolic bruit heard over the apex area. At the end of two months the patient returned home, and I have not heard what course the malady took since that time. It must have been observed that irregularity and increased pulsation of the heart frequently occur in children suffering from chorea, when there is no association of chorea with rheumatism, and no evidence of valvular affection.

It seems probable that this peculiar symptom of increased cardiac pulsation is due rather to derangement of the nervous system of the heart than to a distinct organic lesion of the valvular, muscular, or other tissues. Although it may be impossible in our present state of pathological knowledge to give any explanation of the nature of the morbid condition of the nervous system of the heart which is indicated by increased pulsation or irregularity of action, and which is attributed to emotional disturbance, it is well to admit the clinical evidence of its possibility; and generally, though such derangement of the heart's action may be of temporary duration, occasionally, though rarely, it may be of more serious and permanent character, as in the case briefly related above."

Pineapple-juice is the latest discovered domestic remedy for diphtheria. It is said to be used with great and unfailing success by the negroes of Louisiana and other parts of the South.

A Rare Complication of Influenza.—Dr. W. F. Lippitt, Jr., of Charlestown, W. Va., writes that he saw recently a case of influenza accompanied by acute dacryocystitis with very great chemosis of one eye. The treatment of the case was by antifebrine and inhalations of steam, and the eye symptoms disappeared without any special local treatment.

Was the Poison in the Milk?—Dr. Timothy E. Wilcox, of the United States Army, writes from Fort Niobrara as follows: "A patient of mine suffered from an attack of facial erysipelas during her last pregnancy. She was delivered of a healthy male child which she nursed for two months, being then obliged to desist on account of the milk being unsuited to her child. She drew from her breast some of the milk and set it aside in a glass. A child, three years of age, drank it, and nine days thereafter was attacked with erysipelas of the face as its mother had been. Was this infection or coincidence?"

The Ninth German Congress for Internal Medicine was held last month in Vienna, and not at Wiesbaden as hitherto. Discussions took place on influenza, treatment of empyema, and treatment of chronic nephritis. Among the papers read were the following: Dr. Unna, of Hamburg, on "Physiology of the Skin;" Dr. Mosler, of Greifswald, on "Pemphigus;" Dr. E. Gans, of Carlsbad, on the "Gastric Functions in Diabetes Mellitus;" Dr. Fürbringer, of Berlin, on "Clinical Contributions to the Forms of Osteitis of Typhoid Origin;" Dr. Stadelmann, of Dorpat, on the "Action of Alkalies upon Tissue Metabolism;" Dr. v. Liebig, of Reichenhall, on the "Mountain Disease;" Dr. v. Frey, of Leipsic, on the "Relation between Forms of Pulse and Valve Closure;" Dr. Schott, of Nauheim, on "Forms of Acute Overstrain of the Heart and their Treatment;" Dr. Sternberg, of Vienna, on "Tendon Reflexes;" Dr. H. Curschmann, of Leipsic, on the "Pathology of Floating Kidney;" Dr. G. Cornet, of Berlin, on "Tuberculosis."

A Leper in Philadelphia.—A Chinaman was admitted to a hospital in Philadelphia a few days ago, suffering, it was supposed, from facial erysipelas. It was soon discovered, however, that he had leprosy. He was at once removed to the Municipal Hospital, and now the health authorities are wondering what they can do with him.

The Cause of Cheapness of Quinine.—The present very low price of quinine is due, it is said, to the large amount of cinchona sent out from Ceylon. When coffee, which for a long time was the staple production of that colony, began to fail because of a disease which attacked the trees, cinchona was largely substituted by the planters for the failing staple. In a short time, however, the cinchona began to fail from depreciation in quality; the Ceylon planters turned their attention to tea with so much energy that they cut down their cinchona trees to make way for tea-bushes, and, not being able to hold their bark, they sold it in the London market for what it would fetch. The result has been an enormous fall in price, so that the bark has been obtainable at less than the cost of production, and quinine has fallen to a figure far below anything previously heard of. The export from Java has also increased in recent years. South American bark, which a few years ago was the only source of quinine, has practically been driven out of the market, and the world has been drawing its supplies of quinine from the British and Dutch colonies in Asia.

Physical Culture in the Schools.—At a recent meeting of the Principals' Association, of Brooklyn, it was resolved to request the Superintendent of Public Instruction to recommend in his next annual report to the Board of Education that some approved system of physical culture be taught in the public schools.

The Oneida County (N. Y.) Medical Society held its regular quarterly meeting in Utica on April 8th. Dr. Chas. G. Wagner reported a successful case of trephining in a negro with hemiplegia. After the evacuation of about six ounces of fluid the paralysis gradually disappeared.

The New Jersey Board of Medical Examiners.—The bill providing for a State board of examiners in medicine passed the New Jersey Senate recently. In its final shape it provides that the State board shall consist of nine physicians—five regulars, three homœopaths, and one eclectic. A student shall be examined in therapeutics and materia medica by the members of the board of his own school only, but no applicant shall be admitted to practice except upon unanimous vote of the board. The bill will have to come back to the House now, so that the Assembly may concur in the slight amendments of the Senate.

San Francisco has at present two city physicians, and no one seems to know which of the two is legally appointed. One was appointed nine months ago, and claims that he has not resigned nor received any notice of dismissal. Recently another physician was appointed to the same position, and now the city's poor and the prisoners receive double attention.

The Yale Medical School.—Circulars have been sent to the alumni of the Medical Department of Yale University, asking for contributions to a fund for obtaining a $25,000 building suited to laboratory work, and for remodelling the old building, and buying microscopes and other instruments at a cost of about five thousand dollars.

The American Association for the Advancement of Physical Education held its fifth annual meeting in Boston on March 4th and 5th. Several papers on subjects relating to physical education and anthropometry were read. Dr. D. A. Sargent was elected president for the ensuing year.

Doctors as Dispensers of Spirits.—The Iowa Legislature has just enacted a Pharmacy Law which, it is said, contains a provision that will make whiskey freer in Iowa than it has been under prohibition. It confers upon physicians the right to dispense liquor, and places upon them no restraint whatever. They do not need a permit, like the druggists, nor is there any supervision of their manner of prescribing in the sales they make. There are about five thousand doctors in the State, and the demand for diplomas is likely to increase to an unprecedented extent.

To Improve the Sanitary Condition of the Schools.—The Bridgeport, Conn., Medical Association has issued a circular to the teachers of the various public schools, asking a series of questions bearing on the sanitary and hygienic condition of the school buildings, in order to determine how much of the physical deterioration of the teachers and pupils, if any exists, is due to their surroundings.

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Original Articles.

OBSERVATIONS ON THE CAISSON OR TUNNEL DISEASE.

With Notes on Nine Cases which occurred at the Engineering Works known as the Hudson River Tunnel.

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As one of the New York members of the board of consultants of St. Francis Hospital, Jersey City, I have recently had the rare opportunity of studying a number of cases of that remarkable affection known as the "Caisson" or "Tunnel Disease." The cases in question were all conveyed to the medical wards of St. Francis, where they remained until sufficiently recovered to leave the hospital. It was during the service of Dr. William Perry Watson, the attending physician, that I was able to see these cases at frequent intervals, and it gives me great pleasure to express publicly the obligations which I am under for the numerous courtesies extended to me by Dr. Watson in the wards over which he presides.

General Conception of the Disease.—The caisson or tunnel disease is an affection of the spinal cord, due to a sudden transition from a relatively high atmospheric pressure to one much lower. Hence, those who work in caissons, or submerged tunnels, under an external pressure of two atmospheres or more, are liable to be attacked by the disease shortly after leaving the tunnel. The seizure never, however, occurs while the subject is in the caisson, or, in other words, while he remains under pressure.

The chief clinical features of the disease are pain, which may be relatively mild, as when confined to some portion of one or more extremities, or of frightful intensity, as when it appears in the ears, knees, back, or abdomen; anæsthesia and paralysis, usually of paraplegic type; bladder symptoms, assuming the form of retention or incontinence; and, more rarely, rectal disturbances (usually incontinence).

In cases of moderate severity the patient usually recovers in a few days or weeks, while in the very severe ones he gradually loses strength and eventually succumbs. Besides these extreme phases of the disease there is an intermediate class of cases in which the patient, though grievously ill, may recover sufficiently to get about with sticks, or even unassisted. In these cases recovery is, however, but partial, the subject remaining more or less feeble and hyperæsthetic during the remainder of his life.

Since Triger, a French engineer, first described the characteristic pains of the caisson disease in 1841, the affection has several times received attention at the hands of European physicians who were in a position to observe it in connection with the diving-bell, bridge-building, mining, and other operations requiring the use of compressed air.

A list of the literature pertaining to these historical matters will be found at the end of this paper.

In the United States several opportunities of studying the disease have occurred during the last few years. The most noteworthy of such occasions were the construction of the St. Louis Bridge in 1868, the Brooklyn Bridge at New York about the same time, and the Hudson River Tunnel at a later date.

Dr. A. Jaminet[1] was in charge at the St. Louis Bridge, while Dr. Andrew H. Smith[2] attended at the Brooklyn Bridge. Both these gentlemen published most interesting papers, embodying their personal knowledge of the "Caisson Disease" as it occurred in connection with these colossal undertakings. My own opportunities of studying the disease, as it occurred at the Hudson River Tunnel, New York, have already been mentioned.

Before entering upon a more extended consideration of the subject, a brief account of the works at the Hudson River Tunnel, with a description of the manner of conducting the extensive engineering operations involved, may prove both interesting and instructive, as affording a more complete insight into the genesis of the disease.

A Brief Description of the Hudson River Tunnel and the Pneumatic and Other Devices Employed in its Construction.—The object of the Hudson River Tunnel is to afford passage for railway trains under that portion of the stream which separates New York from Jersey City. More than twenty years ago the distinguished engineer, Mr. D. C. Haskins, proposed to carry out the enterprise substantially in accordance with the present plans. The undertaking has, however, been exposed to great vicissitudes—accidents, financial difficulties, and legal complications having conspired to delay and imperil the work at every turn. It would be foreign to the objects of the present paper were a description of these hardships of

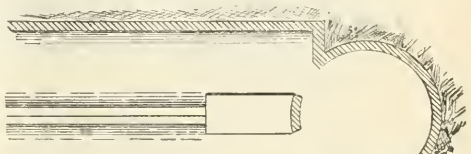

FIG. 1.—Diagram showing North and South Tunnel and Shaft.

the tunnel company to be given in detail; I shall therefore merely recall one terrible event in the history of the enterprise. On July 21, 1880, a portion of the tunnel collapsed; the water rushed in, and the works were completely flooded. Twenty men, in the employ of the company, were in the tunnel at the time. When the waters entered a mad rush was made for the locks; the doors of these structures could not, however, be opened on account of the great air-pressure, and all perished miserably.

The method of working has varied somewhat from time to time, but I shall only describe that which is at present in vogue.

On each side of the river vertical shafts have been sunk, that on the west shore being sixty-five feet deep and thirty-five feet in diameter. These shafts constitute the points of departure for two tunnels (Fig. 1). One of these tunnels is known as the "North Tunnel," while that which is below it is called the "South Tunnel."

[1] Jaminet, A.: Physical Effects of Compressed Air, and of the Causes of Pathological Symptoms produced on Man by Increased Atmospheric Pressure. St. Louis. 1871.

[2] Smith, A. H.: The Effects of High Atmospheric Pressure, including the Caisson Disease. Brooklyn. 1873.

In following out the plans of the engineer, a small tube known as the "pilot" is first advanced thirty feet or more into the silt, which constitutes the bulk of the material to be taken out. The pilot is but six feet in diameter and is composed of quarter-inch iron plates. Its function is to support the wooden braces which radiate from its periphery, which, in their turn, sustain the steel shell composing the outer stratum of the main tunnel (Fig. 2). As the pilot advances masons follow in its

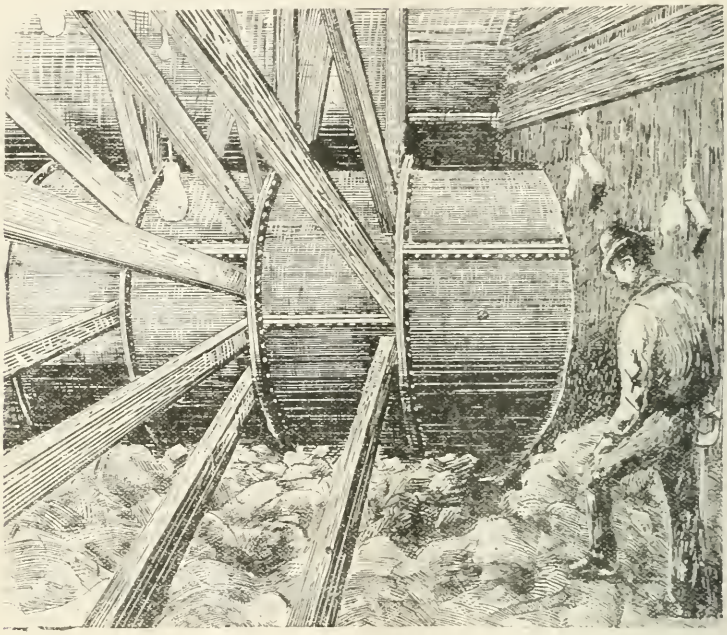

Fig. 2.—Diagram showing the "Pilot," the Sustaining Beams, the Breast of Tunnel, and General Mode of Working.

track, and build within the steel shell a lining of brick two and one-half feet thick. In order to prevent air-leakage the surface of the brick-work is covered with a thin stratum of cement mortar. The tunnels are at the present time eighteen feet high and sixteen wide inside. The distance of the tunnel line from Hudson Street, Jersey City, to the foot of Morton Street, New York, is five thousand five hundred feet, to which must be added the extensive terminals on both sides of the river (Fig. 3). On the New Jersey side, nearly two thousand feet of the north tunnel have already been completed; while the south tunnel of the same side has been advanced about six hundred feet. The work accomplished on the New York

great solidity has been constructed; it is composed of a brick wall four feet thick, to which additional strength is given by timber braces. The air-lock proper consists of an iron cylinder sixteen feet long and six feet in diameter, which projects through and is built into the bulkhead (Fig. 4). At each end of the cylinder is a door, which opens in the direction of the heading. Strong windows of plate-glass set in the iron-work enable the laborers on both sides to communicate with each other by the aid of messages written upon a slate. In front of this structure, which constitutes the first air-lock, an atmospheric pressure of twenty-five pounds to the square inch is maintained by the aid of powerful air-pumps, situated above ground.

The second air-lock is located but a short distance from the heading; its arrangement is much like that of the first, so that a description of its mechanical details is unnecessary. The atmospheric pressure in front of the second bulkhead is maintained at from thirty-two to thirty-four pounds to the square inch, as shown by the gauges at the air-pumps. It is in this atmosphere that the heavy work of excavation and construction is performed.

Fig. 3.—Showing Longitudinal Section of Tunnel between Bulkheads.

side is by no means so extensive, very little more than a beginning having been made at the south tunnel, while of its fellow but one hundred and fifty feet have been completed. Little or nothing is being done on that side at present.

The work on the New Jersey side is, therefore, that which possesses the most interest, and this is specially true of the north tunnel. The pneumatic arrangements in this tunnel present some excellent features. Nearly twelve hundred feet from the entrance a bulkhead of

and it is on emerging thence that the workman experiences that portentous depression of the vital functions which so often culminates in an attack of what he calls the "Bends," or, as we know it, the "Caisson Disease."

The manner of operating the air-lock is quite simple. The door facing the tunnel entrance is first opened, and, the visitor having entered the tubular chamber, it is then closed. Meanwhile the inner door—that which faces the heading—is of course closed, so that those in the lock are hermetically incarcerated. The compressed air

of the tunnel is then gradually admitted through a valve until the density of the atmosphere of the lock corresponds with that of the tunnel (Fig. 5). This process of "locking in," as it is called, is accomplished very gradually, ten minutes or more being consumed in the operation. This deliberation is specially necessary in the case of those who are about to enter the tunnel for the first time. In coming out the process is of course reversed; for, when both doors of the lock are closed, the latter contains condensed air, and this is allowed to blow off into the open tunnel through a valve.

It is evidently a matter of the first importance that the pressure should be uniform in works of this kind. This is attained by the aid of a very perfect set of air-compressors, run by engines of special construction, in conjunction with an automatic fuel regulator, which, while extremely economical, serves also to maintain a definite steam-pressure. These devices, in conjunction with an effective set of gauges enable the engineer in charge to regulate the pressure with great nicety.

When in active operation the work is carried on day and night, to accomplish which three sets of workmen are employed. The duration of the shifts has varied considerably during the prosecution of the work, according to the amount of pressure employed. In the beginning the pressure was relatively low — from eighteen to twenty pounds to the square inch—and it was therefore possible for one set of men to remain at work for six hours or more. Under the existing high pressure, however, this is no longer possible, the laborers being obliged to adopt short shifts of three or four hours.

The mode of construction employed at the Hudson River Tunnel differs from that adopted in previous enterprises of the kind, in that compressed air is used to afford partial support to the earth at the heading and to keep out the water. Whether this is the most judicious manner of operating horizontal works has been questioned; though, as applied to vertical operations, as in sinking caissons for the foundations of bridge piers, its efficacy has long since been abundantly proven.

In concluding this brief account of what is certainly a most extraordinary example of bold engineering, I desire to express my sincere acknowledgments to Mr. C. A. Haskins, superintendent of the works at the tunnel, for conducting me about, and informing me with much detail as to the various scientific features of this remarkable undertaking.

Manifestations of the Tunnel Disease.—Having familiarized ourselves somewhat with the peculiar conditions which surround those who are prospective victims of the caisson or tunnel disease, we are now in a position to study with advantage the invasion and course of this extraordinary affection.

Though somewhat protean in its manifestations there is one symptom which is common to all cases—pain. However, this pain exhibits a predilection for certain regions of the body, notably for the knees, the elbows, the epigastrium, the deltoid, the lumbar muscles, and the ears.

As previously observed at the beginning of this paper, the pains do not come on while the subject is in the condensed atmosphere, but from twenty minutes to half an hour after he has left the tunnel. Let me illustrate the more conventional points of the symptomatology by reviewing a typical case.

A laborer, of German extraction let us say, enters the tunnel, where he continues to labor during the customary shift of four hours. During his sojourn in the highly condensed air he experiences no special inconvenience, but, on the contrary, he affirms that he "never felt better in his life." If we examine him at this time we find his pulse strong and rapid, say from 120 to 140; his skin is warm and moist; he performs such acts a sclimbing and lifting with less difficulty, especially as regards breathing, than under normal atmospheric conditions; and, in a word, all his vital processes seem wonderfully exalted—at least, this is the case for a time. After working in this

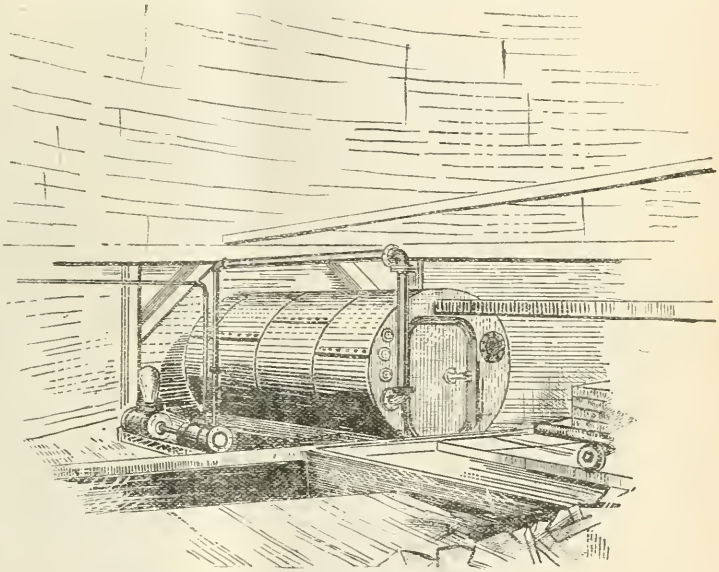

Fig. 4.—External View of Air-lock.

way for three or four hours, however, he begins to feel marked sensations of fatigue. Soon after this, the shift being at an end, he leaves the tunnel in company with the other workmen, due precautions having been taken to "lock out gradually." Let us follow him on his homeward journey. On entering the normal atmosphere once more—or rather, shortly afterward—a remarkable change is observable in our laborer. His skin is cool and covered with a clammy sweat; his pulse, compressible and slightly irregular, has fallen to 60 beats; and he suffers from a sense of prostration, which finds its reflection in a slow and hesitating gait. For half an hour, or less, he wanders on, when suddenly, without the slightest warning, he is seized with pains in the lower limbs of such violence as to cause him to fall to the ground, or sink upon the nearest door-step. An ambulance is summoned; the poor fellow is conveyed to the hospital; and here, while mitigating the most urgent symptom, the pain, we have a rare opportunity of studying a remarkable disease.

The first thing that strikes our attention is the pale skin covered with clammy sweat. The pulse, too, is small, slow, and easily compressible, while the face wears a pinched, haggard, wistful appearance, which is quite characteristic of this early stage of the disease. Of course the pains already alluded to are largely responsible for this anxious look; they are usually of excruciating severity, being often described as "tearing," "burn-

ing," or "sawing." Sometimes they predominate in the knees, at others they are more marked in the abdomen. In some instances they are also felt in the back and arms, more especially in the elbow or shoulder, but these cases are not so common. The advent of the pains, whatever their situation, is often marked by the occurrence of phenomena which may justly be described as prodromic. In quite a number of cases I was told that the patient felt a terrific "buzzing" in the ears, accompanied by other unpleasant auditory sensations shortly before the occurrence of the severe pains in the knees and abdomen. In other cases the first premonition the patient had of impending trouble was a slight pain at the intersection of the deltoid or in the articulation of the jaw or in the elbow.

impairment of both sensation and motion in the lower extremities.

When we thrust needles into the integument of the ankle and thigh, they are not felt; and when we ask the patient to move his legs he cannot do so. The muscular sense, however, sometimes evinces a strange immunity, as may be demonstrated by the appropriate tests, both subjective and objective.

The zone of anæsthesia is somewhat variable in extent and irregular in distribution. Sometimes it extends to the knees, while in other cases it reaches well up the thighs, and I have seen it include the lower portion of the abdomen and more or less of the lumbar region. It is usually higher in front than behind, though not always

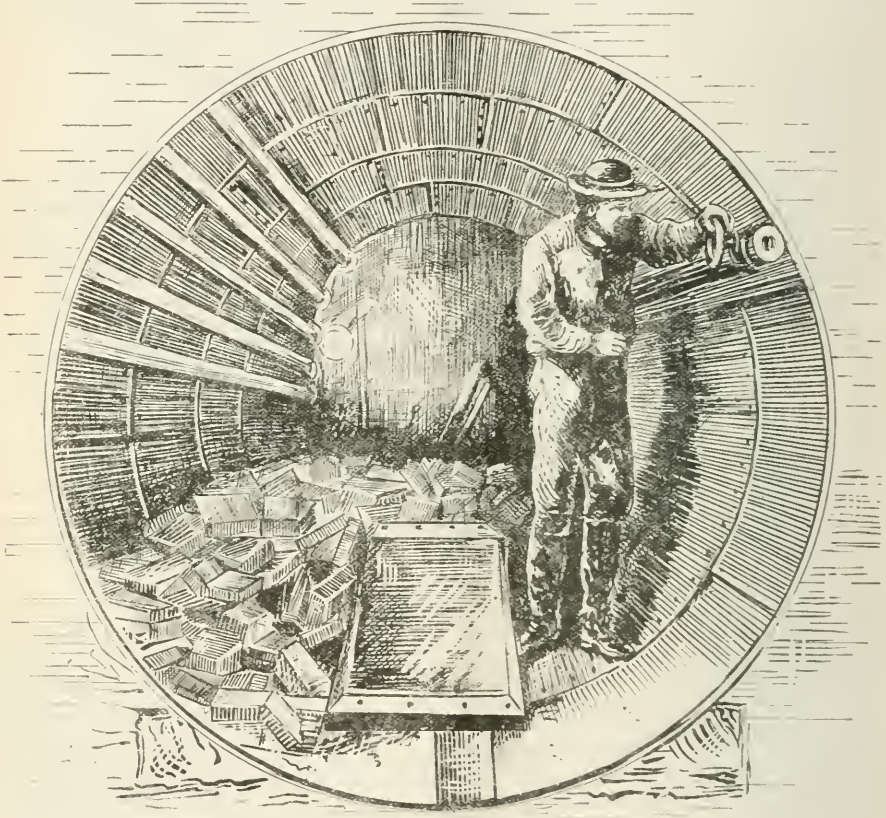

FIG. 5.—Interior View of Air-lock, showing Method of Manipulating Valves.

Sometimes intelligent workmen, who are accustomed to observe the manifestations incident to working in a highly condensed atmosphere, are warned by these and similar phenomena to resort to prompt measures for aborting the attack. They do this in a very simple fashion—in fact, by merely returning to the tunnel, where the compressed air seems to act as an effectual prophylactic.

When recounting adventures of this sort, the men usually speak of having had "a little bend," by which they evidently mean either that they have had some of these unpleasant premonitory symptoms, or that they have really suffered from a mild attack of the disease. Though sensory and motor disturbances of the lower extremities are either absent altogether, or at all events only slightly marked in the milder forms of the disease, the more severe types are characterized by the presence of profound

so, and the entire upper limit is quite irregular in contour and not at all like the comparatively regular line of demarcation found in transverse myelitis or severe traumatism of the cord. As a rule, the region just above the zone of anæsthesia is quite hyperæsthetic, and occasionally sensitive areas may be found encroaching upon the insensitive area; such, at least, is the case when convalescence has set in and the motor and sensory disturbances have begun to abate. There can be no doubt, I believe, that these complex manifestations are due to the irregular distribution of the lesion in the lower segments of the cord.

As may readily be imagined, bladder and rectal symptoms are not uncommon. In the beginning there is vesical paralysis and severe tenesmus; the detrusor fails to act and the water must be drawn with the catheter. The

distress in the bladder is very great at this time, and the patient implores the nurse to use the catheter at frequent intervals. Since the reflex centre for the rectum is situated in the lower part of the spinal cord, in the immediate vicinity of the urinary centre, the subject often experiences difficulty in evacuating the bowels. Cathartics and enemata are, therefore, frequently indicated at this time.

Later, when the symptoms of the disease have begun to subside, the patient is able to pass both water and fæces without much difficulty; and, indeed, he sometimes does this quite unconsciously, owing to the impairment of sensibility in the bladder and rectum, which prevents the mind from being informed as to what is taking place in those viscera.

Trophic disturbances are not uncommon in the severer forms of the caisson disease; these usually assume the form of bed-sores, resembling the malignant type occurring in the course of acute myelitis. A case of this kind was brought to the medical wards under the charge of Dr. Watson, at St. Francis Hospital, Jersey City. Although I did not succeed in getting over to the hospital from New York in time to see this interesting case, Dr. Watson informs me that the slough was most extensive, so much so, in fact, that the man was shorn of a goodly part of his buttocks.

Abnormal fluctuations of temperature are not uncommon. During the extreme prostration which occurs shortly after the advent of the pains, it sometimes declines from ½° to 1° F., whereas in very severe cases—those characterized by paraplegia and paralysis of the bladder and rectum—it may rise 1° F. or more. Whether in such cases we have to do with a secondary myelitis or not remains an open question; analogy would seem, however, to lend support to the supposition.

Though severe cerebral symptoms are relatively rare, they are nevertheless observed in a small percentage of cases. When they do occur, the chances of the patient's recovery are always greatly jeopardized; most cases terminating fatally. An instance of this kind occurred at St. Francis Hospital, the subject, who had labored for some time in the tunnel, dying with symptoms of a typhoid character. I did not have an opportunity of seeing this case, and the knowledge which I have of it is derived from information kindly afforded me by Dr. William Perry Watson, Dr. J. D. McGill, and Dr. W. W. Varick. In fatal cases of this sort the end is without pain, the transition from profound coma to death being almost imperceptible.

Although such cerebral symptoms as these are quite the exception, various minor disturbances of a cognate character are frequently observed. As an illustration of this, patients have frequently told me that they suffered from evanescent attacks of vertigo, headache, and difficulty in talking consecutively (functional aphasia). Dr. Andrew H. Smith also refers to diplopia as a common manifestation, but I have not had the opportunity of observing this symptom.

Course, Duration, Prognosis.—Cases of minor severity usually recover in from one to two weeks, or even less, while those of a graver type require a much longer time before the patient is restored sufficiently to get about.

The prognosis in ordinary cases is good, many of the men going back to work soon after leaving the hospital. The fact that the individual has had an attack affords, however, no immunity; indeed, he is rendered thereby more susceptible, a subsequent seizure being certain to prove more severe than the first. The most severe case which I saw occurred in a man who had already suffered from repeated attacks.

Cases.—The following is a brief synopsis of the cases which I had an opportunity of seeing at St. Francis Hospital:

Case I.—G. F——, Frenchman, formerly occupied as a cook, was induced to accept a position as workman in the tunnel because he failed to secure anything to do elsewhere. He had only entered the tunnel once, remaining there four hours; fifteen minutes after leaving it he was seized with violent pains, first in the elbow and directly afterward in the chest and abdomen.

Simultaneously with the advent of these pains, or shortly afterward, he became aware that he had lost the power of moving his lower limbs, while a peculiar "stiffness" had invaded the arms.

Sensation was quite gone in the legs, but was little or not at all affected in the arms.

In the beginning his water had to be drawn with a catheter, but later he passed it involuntarily.

The patient gives a graphic description of his sufferings, comparing the pains in the limbs to sensations produced by thrusting red-hot needles into the flesh, while those in the chest feel, he says, as though a belt were drawn tightly about him. Both kinds of pain are intermittent, but those in the chest are always followed by a disagreeable sensation of tightness.

For the first five days patient lived on milk almost exclusively; on the sixth day he began to regain sensation and motion in the legs, on the tenth he could stand, and on the fifteenth he could walk about the wards by the aid of a cane. Discharged on the twenty-second day.

Case II.—C. Z——, German workman; occasional drinker; had been at work in the tunnel for some time. After a night of debauch he went to his work in the tunnel, feeling, as he says, "hardly able to raise his hand." In a short time, however, he felt much better and continued to work until relieved by the succeeding shift. On leaving the tunnel he felt very languid, but thought nothing of it, as he had noticed the same thing on former occasions. He had gotten about half-way home, when he was seized with a violent pain in the knees and abdomen, and sank to the sidewalk. Thence he was conveyed to the hospital.

When I saw him, on the third day, he was still very weak in the lower limbs, but could move them somewhat, but not without pain. These pains could also be induced by backward motion. There was no anæsthesia, but, on the contrary, the lower limbs were exceedingly hyperæsthetic. Bladder symptoms requiring the use of the catheter had been present, but were now giving place to incontinence.

Pains, easily controlled with injections of Magendie's solution, ten minims every four hours. No cerebral symptoms nor motor or sensory disturbances in the upper extremities. There has been considerable constipation, which readily yields to purgatives. Patient discharged on the twelfth day.

Case III.—E. N. C——, Irish laborer; had been employed in the tunnel for several days; he suffered no inconvenience on entering the compressed air other than ringing in the ears. Forty-eight hours ago he was brought to St. Francis Hospital, suffering severely from the characteristic symptoms of the disease.

The salient features in the clinical history of the case are as follows: On leaving the condensed atmosphere, or rather shortly afterward, he noticed a peculiar pain in the region of the deltoid muscle. In a few minutes he began to experience an aching sensation in the joints of the arms and legs, and particularly in the knees and elbows. This aching sensation increased in severity with great rapidity, culminating, at length, in pain of excruciating intensity.

Though the pain in the arms, and more especially that in the shoulders, was very great, it was not so severe as that felt in the lower limbs. In the last-named situation it was referred to as a "tearing pain in the bones." The bladder symptoms were insignificant, and there was at no time impairment of sensation or motion in the legs. The functions of the rectum remained normal.

The treatment adopted was very simple, consisting mainly in the administration of purgatives, and Magendie's solution of morphine, in doses of ten minims, every three or four hours. On the day following admission he ap-

peared very weak, and was quite unable to take other than fluid nourishment, although the abdominal pains were quite insignificant. From this time till the twelfth day the pains, which were gradually diminishing in severity and frequency, were well controlled with morphine; and on the twenty-third day from the date of his admission he had quite recovered, and was able to take his departure from the hospital on foot and unassisted.

Case IV.—N. A——, German workman, of middle age. Presents features almost identical with those of Case III., except that there was at first some anæsthesia of the lower extremities, culminating soon afterward in severe hyperæsthesia, and also pronounced bladder symptoms, requiring the use of the catheter for a few days. There was likewise some paresis of the legs.

Case V.—R. V——, Scandinavian (?) laborer; had worked in the tunnel but three days, when, on emerging the last time, he was seized with a dull pain in the knees, soon followed by violent "cramps" in the abdomen. He then, according to his own statement, lost consciousness, and has no recollection of what followed till he found himself in the hospital. So far as I was able to ascertain, he regained consciousness about twelve or fourteen hours after his arrival at St. Francis. When I saw him, a few days after admission, his lower limbs were paralyzed and anæsthetic. He could not feel the prick of a pin in the thigh or ankle, neither could he distinguish a piece of ice nor a hot towel when placed upon his legs. On the other hand, he was well able to tell when his legs were pressed upon, or when an object of any considerable weight was placed upon them. Both the bladder and the rectum were affected. In the case of the former the detrusor was paralyzed, so that the use of the catheter was made necessary, whereas in the case of the rectum paralysis of the sphincter was the more obvious feature.

The first time I saw him he had just received a dose of morphine, so that he felt but little pain. Nevertheless, after waiting some time at the hospital till the effect of the drug had worn off, the pains again returned, and I was able by careful interrogation to inform myself with great exactness as to their character and location. I found that the man felt pain in his legs, back, arms, and chest; and that while that in the lower extremities was described as "tearing and grinding," that in the arms as "aching," and that in the chest as "crushing," the pain in the back had something *sui generis* about it and was referred to as "burning." Of course, as the man was a foreigner, his descriptive powers were much curtailed; still, his knowledge of English was fair, and I am inclined to think that his declaration as to these manifold pains was substantially correct. There was nothing specially novel in the subsequent course of this case. The deranged functions of the bladder and rectum disappeared in a relatively short time; the anæsthesia, as is usually the case, gave place to hyperæsthesia; and somewhat later the motor functions also gradually returned, the patient beginning by moving his toes and ending by walking about the wards. He was discharged recovered, I believe, at the end of the third week.

Case VI.—American, of Irish parents; had been at work in the tunnel for about a week. On entering for the last time on Saturday, he noticed that the buzzing in his ears was very loud, and that he was more readily fatigued than on former occasions. On leaving the condensed atmosphere he felt very cold, and a few minutes later his knees began to ache. Realizing from what he had heard from other workmen that he was about to be attacked by the disease, he made an attempt to regain the tunnel, hoping to abort the seizure. He did not, however, succeed in reaching the shaft, but fell to the ground in great agony before he had gone half-way. When brought to the hospital he was suffering great agony, the pains being most pronounced in the back, knees, chest, and abdomen. No anæsthesia was present, but, on the contrary, the lower limbs were hyperæsthetic from the beginning. In other respects, also, the symptoms and termination were practically like those of Case II., so that nothing further need be added to the clinical history.

Case VII.—L. K——, robust man in middle life, of German parentage, formerly a soldier in the United States Army; has been at work in the tunnel for the past six weeks. During this time he has been quite well, with the exception of a slight attack of "the bends," assuming the form of stiffness in the legs. This minor attack of the disease came on after he had been at work in the tunnel four days; it was of short duration, and disappeared in the course of twelve hours. In addition to this indisposition he subsequently noticed, it is true, certain symptoms in the arms, which he describes as "shooting" or "darting" pains. As nearly as I could ascertain these pains made their appearance on the fourteenth day, about ten minutes after he had left the tunnel. These, too, soon disappeared, and he felt as well as ever.

The present attack came on during the beginning of the seventh week of his engagement in the tunnel. Briefly stated, he had been out of the condensed atmosphere half an hour or less, when he was seized with excruciating pains in the chest, shoulders, back, and abdomen. There was also at first some pain in the knees, but this was completely dwarfed by the agonizing sensations in the trunk. Coincidently with the advent of the pains, there was complete loss of power in the legs, which caused him to fall heavily to the floor. He was conveyed, like the preceding cases, to St. Francis Hospital, and there, four days after his admission, I had a very excellent opportunity of examining him. His lower limbs were completely paralyzed and sensation was likewise abolished, the zone of anæsthesia extending a hand's-breadth above the crest of the ilium in front, but not so high behind. The genital organs were quite insensitive, as was shown by repeated tests with the sharp points of an æsthesiometer. Both the bladder and rectum were paralyzed and the patient complained of severe vesical tenesmus. Though his water was frequently drawn with the catheter the tenesmus was not relieved.

He is very thirsty and drinks water in small quantities at frequent intervals. He cannot retain solids, and is fed with liquids only. As in the previous cases, the pains are controlled with morphine, and the bowels are kept open with purgatives.

Ten days later I again examined this patient most carefully, and found that his rectum was completely anæsthetic and still paralyzed, defecation taking place unconsciously, and quite independent of any volitional control.

This case remained under treatment for a long time, and when discharged I am told there was still great weakness in the legs, and that the patient's general health was far from satisfactory.

Cases VIII. and IX. occurred in men who had been employed in the tunnel for a short time only. Neither of these cases presents features of special interest. Both experienced the characteristic pains in the knees and abdomen, and in other respects were quite like Case III.

Pathogenesis.—It has already been shown that the attack does not occur as a consequence of a prolonged sojourn in highly condensed air, but as the result of an *abrupt transition* from an atmosphere of high density to one which is relatively rarefied. Nor is it necessary that this transition should take place from an atmosphere which is more condensed than that in which human beings are accustomed to live. As an absolute proof of this proposition I will merely cite the fact that aëronauts who ascend rapidly to great heights are sometimes attacked in the lofty regions above the clouds, where the barometric pressure is relatively low, by symptoms in all essential particulars like those of the caisson disease.

An illustration in point is that of Mr. James Glaisher, the famous aëronaut, who made a series of twenty-eight ascents, most or all of which were undertaken for the purpose of scientific research. The most thrilling of these voyages in the air was that undertaken on September

5, 1862, from Wolverhampton, a town in the centre of England. In speaking of this remarkable ascent Professor W. Le Conte Stevens observes in his recent most instructive paper on aëronautics :[1]

"The intention was to reach the greatest height possible. The balloon left the ground at a few minutes past one o'clock, and at the end of forty-five minutes a height of five miles was reached. Mr. Glaisher began to grow faint on account of the rarefaction of the air. When half a mile more had been mounted, Mr. Glaisher lost the use of his hands and limbs. . . . A few moments afterward he fell back insensible in the car.

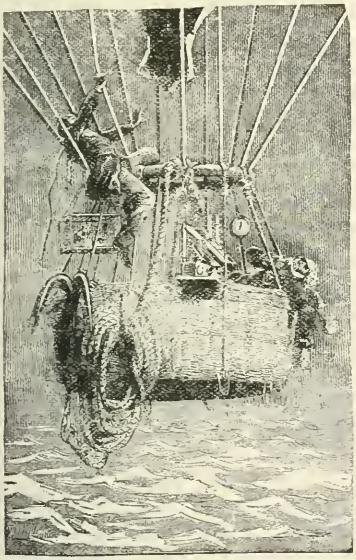

FIG. 6.—Glaisher Insensible at the Height of Seven Miles.

His companion, Mr. Coxwell, who had been employed as aëronaut, here attempted to stop the ascent by pulling the valve-rope; but this had become twisted on account of the rotary motion of the balloon. It was necessary to climb up into the rigging to disentangle it. On attempting to come down he found his hands frozen, and insensibility beginning to creep over him. Placing his arms on the ring, he dropped down into the car. After several ineffectual efforts he succeeded in catching the valve-rope with his teeth, and by dipping the head a few times he caused the escape of enough gas to make the balloon take a decided turn downward. Glaisher soon recovered and resumed his observations upon the instruments."

From the data afforded by the instruments it was shown that the maximum elevation had been 37,000 feet, or seven miles. The ground was at length reached in safety, about one hundred minutes after the departure from Wolverhampton.

Thus ended one of the most thrilling aërial voyages on record.

The analogy between Glaisher's recovery as the balloon descended to a denser atmosphere, and the recovery of one afflicted by the caisson disease on re-entering the caisson is at once apparent. Finally, there can be no doubt that the paresis of the muscles of the hands, feet, and trunk, as well as the somnolency and ultimate unconsciousness which occurred in Mr. Glaisher's case were the *direct result of the diminished atmospheric pressure and not the effect of cold*, since similar phenomena may be induced in animals experimentally by exposing them in suitable apparatus to air of corresponding rarefaction.[1] The physiological *modus operandi* is evidently quite simple : In the first place, the diminution of the pressure at the periphery causes the blood to rush in unwonted quantity to the surface of the body, with consequent deprivation of the internal organs, and especially those within the cerebro-spinal canal, of a large amount of blood.

This anæmia of the cord and brain is equivalent to a withdrawal of a large amount of oxygen from those structures, to the serious impairment of their functions. As a matter of necessity this anæmia will first make itself felt in the lower segments of the cord, for the very good reason, as Dr. Moxon[2] long since pointed out, that the arteries which supply this region are at once long, slender, and remote from the heart. Only when the rarefaction is very great will the cerebral functions be affected. Hence there will be motor and sensory paraplegia before unconsciousness.

That such circulatory derangements should produce something more than transient effects is not to be wondered at; at least we need not wonder that damage is wrought, *if the subject remain in the relatively rarefied air*, as he does if he fails to descend from a very great height (in a balloon) or if he fail to re-enter the caisson after the characteristic pains have set in. How disastrous may be the effects of a prolonged anæmia upon nervous structures special pathology has abundantly shown. When we consider how great and how prolonged is the derivative action consequent upon the transition from a condensed atmosphere to one relatively rarefied, and when we bear in mind how feeble is the heart's action for a long time after such transition, it is in no sense special pleading when we look to the local anæmia and consequent defective oxygenation of the cerebro-spinal axis, and particularly of its lower segments, as the true cause of the characteristic symptoms of the caisson disease.

Dr. Andrew H. Smith has given a somewhat different interpretation of the phenomena of the caisson disease. He believes that the capillaries of the brain and cord are inordinately relaxed (stretched) by the condensed air, and that they do not at once resume their tone after the subject has left the caisson. Hence "the capillaries being clogged with effete blood, the nutrition of the part must suffer, and disturbances of function will result."[3]

But Dr. Smith's theory is so ingenious, and reinforced with such cogent reasoning withal, that I cannot forbear presenting it more fully in his own language.

As a preface to his argument he lays down three propositions : First, "That under high atmospheric pressure the centres will be congested at the expense of the periphery; secondly, that firm and compact structures will be congested at the expense of those more compressible; and thirdly, that structures within closed bony cavities are congested at the expense of all others."[4]

"In accordance with these laws we shall find that while in the caisson the condition of the different parts in regard to the supply of blood will be as follows :

"The skin and the superficial structures will be anæmic. (This is shown by the pallor, which is very characteristic.) The central portion of the limbs and the interior organs of the body will be congested. The solid viscera of the abdomen will be especially engorged on account of both situation and structure. The brain and spinal cord and the interior of the shaft of the long bones will be congested to a high degree from the operation of the third law.

"These changes are not perfected until a considerable time has been passed in the compressed air. The circulation up to this point goes on everywhere with vigor, the

[1] The Scientific American Supplement, February 22, 1890, p. 11792. The accompanying engraving is taken from Professor Stevens' paper. The plate was kindly loaned me by the editor of The Scientific American.

[1] Über die Wirkung der Verdünnten Luft auf den Organismus. Eine Experimental-Untersuchung. By Dr. A. Fränkel and Dr. J. Geppert. P. 51 et. seq. Berlin. 1883.

[2] The Croonian Lectures on the Influences of the Circulation on the Nervous System. The Lancet, April 2, 1881, pp. 529 and 530.

[3] The Effects of High Atmospheric Pressure, including the Caisson Disease. By Andrew H. Smith, M.D., etc. Brooklyn. 1873.

[4] Op. cit., p. 31 et seq.

change being in the relative calibre of the vessels, not in their tension. The counter-pressure becomes uniform throughout the whole vascular system, but this counter pressure suspends the natural muscular resistance or tone of the vessels, which have become passive tubes. The blood is distributed not in accordance with the physiological demands of the different parts, but in obedience to overpowering physical force.

"This is the condition of the circulation at the moment that the process of locking-out begins. Yet the changes which have taken place up to this point are not the cause of the morbid phenomena which constitute the caisson disease, else the attack would take place while in the compressed air instead of after leaving it. It is evident that the removal of the pressure, and not the pressure itself, is the immediate cause of the seizure.

"This removal is effected in the few minutes which are occupied in locking-out. But it is not to be supposed that the vessels will instantly assume their normal condition. They are in a state of relaxation, not only in the congested but also in the anæmic parts; in the former because of over-distention, in the latter because the muscular coat cannot at once recover from its inaction. The aggregate capacity of the vascular system will, therefore, be in excess, compared to the volume of blood to be conveyed; or, in other words there will be a lowering of vascular tension.

"Hence, the circulation will be languid, and the congested parts will not readily empty themselves of the excess of blood which they contain. Especially will this be the case in the brain and spinal cord, where the conditions are most favorable for the production of congestion. The capillaries being clogged with effete blood, the nutrition of the part must suffer, and disturbances of function will result.

"It is to this, I think, that the delirium and the transient loss of consciousness, which occasionally occur, are to be attributed. When the spinal cord is the seat of this condition, pain in the parts deriving their nerves from that section of the cord may result, or paralysis more or less complete may follow." [1]

Morbid Anatomy.—The pathology of the caisson disease is not in a very satisfactory condition. This is not difficult to account for when we consider that only the severest cases come to autopsy, and that the congestion described in such cases may be secondary to a condition of partial softening, which, in turn, may be due to a primary anæmia, which, however, no longer exists.

Leyden and F. Schultze were, according to Strümpell,[2] the first to conduct special anatomical investigations in such cases. They found "a disseminated but extensive affection of the dorsal cord, chiefly in the posterior columns and the posterior portions of the lateral columns. The nervous tissue in the diseased parts was completely destroyed, and instead of it was found detritus and a collection of large, round, finely granular cells (fatty granular cells?)."

At one time it was believed that, on leaving the condensed atmosphere, there was a development of gas from the blood which caused a rupture of the neighboring tissue. What added plausibility to this theory was the fact that Bert and Hoppe-Seyler had been able to produce analogous phenomena experimentally.

It has been urged, however, in rebuttal, that the limitation to the dorsal portion of the cord and the infrequency or total absence of vascular hemorrhage are totally opposed to this theory.

It is evident from the foregoing that not much can be learned regarding the primary vascular condition, which lies at the root of subsequent pathological events, from mere patho-anatomical considerations.

Treatment.—The treatment adopted in those cases which occurred in the Hudson River Tunnel, and which were brought to St. Francis Hospital, was quite simple. Morphine was given at frequent intervals (every two or three hours) to control the pains; the bowels were relieved with cathartics, for derivative purposes; the catheter was used when the retention was such as to require it, and the patient placed upon a fluid and nourishing diet. In some cases ergot was also given with apparent benefit; and I may add, also, that the faradic battery was sometimes applied to the seat of pain at the tunnel. Contrary to the expressed opinions of some writers, I am firmly impressed with the fact that these applications of the electric current did good; for I have repeatedly had patients tell me that the pains were greatly relieved by them.

Dr. Jaminet has a high regard for stimulants, which he gives in conjunction with concentrated nourishment, ignoring anodynes altogether. Dr. Smith, on the other hand, is of the opinion that the prime indication is the alleviation of the severe pains which are so distressing a feature of the affection. I am entirely in agreement with him on this point. To this end he gives large doses of morphine (from one-fourth to one-half grain).

With a view to causing contraction of the distended capillaries of the brain and cord, the same observer was led to test the efficacy of ergot. This mode of treatment, though not always successful, was, in his opinion, sometimes productive of the happiest results. In some instances the pain was relieved in half an hour after the administration of a drachm of the fluid extract. The injection of ergotine, hypodermically, did not, however, yield equally good results, as considerable irritation was set up at the point of insertion.

Compression of the arteries and veins of the lower extremities has been tried, with a view to arresting pain in the knee, but the results obtained were not satisfactory. Cold applications and douches to the spine proved beneficial in two of Dr. Smith's cases. Jaminet found that hot baths were followed by serious accidents, so that he was led to interdict their employment. Chief among the disagreeable consequences observed was paralysis, which sometimes came on while the patient was still in the hot bath.

No marked benefit was derived by this observer from the use of electricity. Dry cups to the spine seem to have given good results in some cases.

Unquestionably the best of all remedies is to return the patient as quickly as possible to the condensed atmosphere. All physicians who have had occasion to study the disease agree that if the subject can be brought into the caisson again upon the outbreak of the characteristic symptoms, the latter speedily disappear. As Dr. Smith observes, however, such a course is not always possible, owing to the feeble condition of the patient on the one hand, and the inaccessibility of the caisson on the other. The foregoing objections have induced him to propose the following plan for employing compressed air at some point above ground which would be easily accessible: "Let there be constructed, of iron of sufficient thickness, a tube nine feet long and three and one-half feet in diameter, having one end permanently closed, and the other provided with a door opening inward, and closing air-tight, this tube to be placed horizontally and provided with ways upon which a bed could be slid into it. Very strong plates of glass set in the door and in the opposite end would admit the light of candles or gas-jets placed immediately outside. This apparatus should be connected by means of a suitable tube with the pipe which conveys the air from the condensers to the caisson. An escape-cock, properly regulated, would allow the constant escape of sufficient air to preserve the necessary purity of the atmosphere within.

"The bed containing the patient having been slid into the chamber, the door is to be closed and the pressure admitted gradually until it nearly or quite equals that in the caisson. This should be continued until the patient indicates by a signal, previously concerted, that the pain is

[1] Op. cit., p. 32.

[2] A Text-Book of Medicine, p. 575. By Adolf Strümpell. (American edition.) New York: D. Appleton & Co. 1887.

relieved. The pressure should then be reduced by degrees, carefully adjusted to the effect produced, until at last the normal standard is reached. By occupying several hours, if necessary, in the reduction of the pressure, it is probable that a return of the pain could be avoided.

"The apparatus once provided there would be no difficulty in carrying out the plan in any case of such severity as to resist other treatment. I should expect the very best results from it in cases of extreme pain, or in the very outset of paralysis not dependent upon extravasation of blood.

"Of course the secondary conditions which arise in protracted cases would not be capable of direct relief by simply reproducing the physical conditions existing in the caisson. The most that might be hoped for in such cases would be that the pressure might result in giving a new impulse to the circulation in the congested part, and thus favor resolution."

Prophylaxis.—Only men of strong constitutions should be allowed to engage in submarine work necessitating the employment of condensed air. The food should be of the most nourishing description, but alcohol, on account of its relaxing effects upon the vaso-motor apparatus should be withheld. It is clear, from the observations of those who have had opportunities for studying the disease, that the duration of the sojourn in the caisson has much to do with the development of the symptons. Short shifts are therefore to be recommended.

Finally, both engineers and physicians agree that a longer time should be consumed in the process of "lock ing out," so that the transition from the condensed to the normal atmosphere may be as gradual as possible.

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53 West Thirty-eighth Street, May 1, 1890.

A Pauper City.—That is what the Philadelphia *Times and Register* calls that city, because 214,000 of its inhabitants received free medical attendance at the various public hospitals and dispensaries during the past year. Our esteemed contemporary says that there is entirely too much beneficiary work done in Philadelphia, and innocently asks whether this state of affairs is as bad in other great cities. Indeed it is.

NEURASTHENIA AND NEURALGIA FROM TRAUMATISM OF THE NASAL PASSAGES.

By W. F. CHAPPEL, M.D., M.R.C.S. Eng.,

NEW YORK.

The past three years has seen a marked increase in our exact knowledge and appreciation of the condition of persons said to be neurasthenic. When Beard classified the symptoms of this disease and gave them a name, many physicians, especially in Europe, did not believe it to be a definite disease, traceable to certain causes, giving a definite train of symptoms, and requiring most skilful treatment. They had been accustomed to say that these sufferers were overworked, hypochondriacal, or a little hipped. The latter word was used in England to specially describe the condition we now know to be one of neurasthenia.

Neurasthenia has been mostly confined to the practice of physicians. Some recognize three classes of this affection: 1. Reflex. 2. Lithæmic. 3. Simple neurasthenia.

The latter the most frequent, and due to overwork and excesses of various kinds. During the past eighteen months, much fruitful observation and investigation has been pursued in this field by neurologists and surgeons. They have frequently warned the profession of the serious nervous disturbance which occasionally follows operations and accidents accompanied by severe shock. This condition is now so well recognized as to be called traumatic neurasthenia and traumatic neurosis.

This form of neurasthenia has been studied and described as occurring chiefly after railway and other serious accidents. There is nothing specific, however, in these accidents, to produce this peculiar and definite train of symptoms. They may be caused by anything which produces great shock or fright, especially in certain persons whose condition is favorable for their development. We all know that the influence of a neurosis may never manifest itself, unless overwork, accident, or fright determines its appearance.

Oppenheim, quoted by Dr. Henry Hun, says, the principal symptoms of this condition are mental depression, hallucinatory delirium, vertigo, and spasms. There is a combination of hyperæsthesia and anæsthesia not only of the cutaneous nerves, but also of the special senses; tremor is common, palpitation frequent, and also a failure of the general nutrition.

Hun, again quoting from Strümpell, says, that the latter divides these cases into those suffering from general traumatic neuroses, and a second class from local traumatic neuroses. To the first class belong those cases which after a severe shock or concussion develop certain well-defined symptoms referable to the nervous system, and similar in every way to what is known as neurasthenia, melancholia, etc.

To the second class belong those severe nervous symptoms, such as local paralysis, contracture, hyperæsthesia, seen occasionally after severe local injuries, and due entirely to psychical excitement associated with the injury of the part.

Knapp, Shaw, Seguin, and several other writers have given this subject attention during the past year, but I have quoted enough to show you how important this class of nervous symptoms is considered.

In my opinion, operations in the nasal passages offer a most favorable opportunity for the development of traumatic neuroses—their mucous membrane has an abundant nerve distribution in intimate relation with the most important nerve-centres; we cannot easily reduce or prevent shock in these operations by the use of ether and chloroform, as the necessary position and co-operation of the patient prevent their use. Cocaine, if used freely, will relieve the pain in most cases, but there are some in which no amount of cocaine seems to render anæsthesia complete. Even when we do get immunity from pain, the patient is able to feel the grating of the saw or the pulling and pinching of the forceps and wire. To those who are not familiar with these complaints, this may seem a matter of little importance, but be assured anyone who has had personal experience, or seen the effect on some of the patients, will readily realize that fear is more distressing than pain, and that a serious nervous disturbance might be produced in some persons.

I shall now relate short histories of six cases of nervous disturbance following operations in the nasal cavity.

O. H. R——, aged thirty-six, clergyman; had never had any serious illness; while not a decidedly nervous person, always consulted his physician about slight ailments, and was very anxious until he had entirely recovered. For five years had suffered from post-nasal discharge, due to hypertrophic rhinitis and a large bony spur growing from the anterior part of the septum near the floor of the left naris. I injected monochloracetic acid into the hypertrophied mucous membrane three times in 1889, averaging three months apart. This relieved the post-nasal discharge very much. On January 9, 1889, he consulted me again, as he still had some discomfort from post-nasal mucus. I then removed the spur with a saw, using cocaine freely. There was little hemorrhage and no pain, but loud complaints about the grating of the saw. A small ledge of the spur remaining on the lower part of the cut surface, I removed it with Dr. A. H. Smith's cannula scissors. The patient immediately complained of intense pain and burning sensation in the centre of the forehead, which continued for several hours. In the afternoon of the same day, on attempting to write, he found he was unable to compose with clearness and readiness, and with great difficulty finished a disconnected letter. In the evening he took up the newspaper, but was unable to read, as he could not connect the sentences and their meaning. He remained in the city for a few days, still feeling very weak and nervous. He constantly said he felt that he would never be able to resume his duties.

January 13th, while delivering a sermon, he found great difficulty in choosing words to express himself, and with great effort concluded his discourse. The same day he forgot to pronounce the benediction, and when reminded of his neglect, could not recollect the omission. The following week he was very depressed and totally unable to do anything. He wished to sit quiet and not be disturbed. The next Sunday he had what he called his nervous chills and violent palpitation of the heart, produced, he thought, by a dread that he would break down during his morning service, or make some blunder without being aware of it.

January 28th, he called to see me, and after relating the foregoing symptoms, added that he had a tight feeling around the head, pain in the occipital region, and a general feeling of confusion. He was perfectly hopeless about the future and said he would never preach again, and that he was going to resign his parish. On examination, I found the wound healed, and with no particularly sensitive spots. His physical condition was good; pulse, 90; temperature normal; urine pale straw in color; specific gravity, 1.018, reaction faintly acid, no albumin or sugar. At the suggestion of Dr. A. H. Smith, I applied Paquelin's thermo-cautery lightly to the back of the patient's neck and spine every other day for a week. He then returned home, somewhat improved. October 10th, visited me again and reported that he had been very miserable and despondent for months past. During the summer had six weeks holiday, but was very little improved by it. Crowds and noises made him nervous and chilly. The ringing of bells brought on a violent attack of palpitation. At this date (October 10th) he seemed quite as ill as in January. Complains constantly of the tight feeling around the head and hot sensation in the frontal region, occasional pains behind the ears and in the back of neck. Says he has a numb feeling behind the left ear and a belief that the brain in that region don't act. Still has difficulty in originating new ideas, and also in reading and writing; has none of his old enthusiasm in

his delivery or work; when reading aloud had difficulty in forming his lips to pronounce the words. A month later his condition was unimproved and he consulted Dr. C. L. Dana, who made the diagnosis of traumatic neurasthenia and advised prolonged rest.

I saw this patient on the 8th of the present month, just one year and three months since the operation; he was unable to take the complete rest advised, and continued his duties; he did everything to improve his general condition, and says his improvement was gradual. He is now in very robust health, in fact has never been so well; has none of the head symptoms he had six months ago, but if very tired, has a stiff feeling in the frontal region.

J. G——, aged twenty-six, came to the out-door clinic of the Presbyterian Hospital in October, 1888. He had always been in good health, but was of a nervous temperament and very anxious about his present condition. For two years had been unable to breathe through his left nostril, owing to a large spur growing from the lower part and centre of the septum. I removed this at once with the saw. He complained greatly of the sawing sensation, and said he felt it at the top of his head and his teeth. Two hours later, he had a tight feeling around the head and numbness of left arm, and, as he described it, creeping feelings down his back. The following day he was despondent and easily moved to tears. Said he could not think; reading had no interest for him; he felt he would never be able to work again. Three weeks later, the numbness left the arm. The other symptoms improved gradually, but he was not well until six months later.

Mrs. W——, aged sixty-eight, suffered occasionally from headaches, otherwise enjoyed good health. The mucous membrane covering the middle turbinated bodies was much hypertrophied and hung in pendulous masses, occluding the nares. After using cocaine, one drop of monochloracetic acid was injected into the mucous membrane of the right side. There was a little pain, which ceased before she left the office. In the evening severe pain attacked the right side of the face, extended from the right frontal sinus over the top of the head to the occiput, and a slight aching down the back. The pain also extended down the right side of the neck, and along the course of the large nerves to the tips of the fingers. The intensity of the pain increased toward evening, and on change of temperature or position. The suffering was intense, due not alone to the neuralgic pains, but also to a tender condition of the integument and cellular tissue of the affected part.

The pain subsided after the first week, but six weeks elapsed before the patient was at all comfortable. During the attack and for months after, she was much depressed and her physical condition greatly enfeebled. She has quite recovered her strength now, but on exposure still has pain and tenderness of the face. I might add that the injection of the acid gave permanent relief from the hypertrophied mucous membrane.

E. F——, aged forty-four. January 17, 1890, I removed a portion of the hypertrophied left middle turbinated body; on February 3d, I attempted to remove another portion of the same middle turbinated; while doing so, I felt what I feared was the separation of the whole bone from its attachment. I desisted at once. A good deal of hemorrhage followed, but little pain. The following day, the patient reported that about two hours after the operation, she began to suffer from pain and tenderness over the left frontal region, extending to the occiput and down the back of the neck to the left shoulder. She felt dizzy and feared at times she would fall. It is now three months since the operation, and although much better, still has some numbness of that side of the face and neck.

The next two cases occurred under the care of Dr. James E. Nichols, to whom I am indebted for permission to report them.

S. I——, aged twenty-five. In October, 1889, Dr. Nichols removed a spur from the right side of the septum. The patient seemed greatly impressed by the operation. Although the pain and hemorrhage were slight, he fainted. The following morning he complained of a dull aching in the occipital region, which extended down the spine and was specially severe in the dorsal region. There was also considerable pain under the right eye and a feeling of constriction around the head. He was much depressed, felt weak and disinclined to work. These symptoms were pronounced and severe for three weeks, when he began to improve, but is not well yet, as he still has occasional aching in the cervical region and also the occiput, a nervous, restless feeling, and considerable insomnia.

Mrs. E. F. W——, aged forty-four. Came under Dr. Nichols' care in September, 1888. She had always been considered to be of a nervous temperament. Eight years ago, she had an operation for lacerated cervix. After the operation she said she suffered many weeks from nervous prostration. Three years ago she had a mild attack of sunstroke. When seen by Dr. Nichols, she had a troublesome cough, which he thought was due to congestion of the pharynx. After remaining under his care for three weeks, she returned home much benefited. In October, 1889, she again visited Dr. Nichols, as the cough still continued. On October 19th he removed a portion of the left middle turbinated body with Weir's forceps, and used the galvano-cautery on the inferior turbinated of the same side. The pain was not severe, but the patient vomited and complained of tenderness and pain in the back of the neck. October 28th, the galvano-cautery and chromic acid were used to the right inferior and middle turbinated bodies. Soon after the application she had pains in the head and an aching of the neck and shoulders. For several days she felt sore all over, the knees being particularly lame and tender. When she seemed quite well again, the doctor removed some mucous membrane from the left middle turbinated body with the cold wire snare. He also applied chromic acid to the posterior extremities of the inferior and middle turbinated of the right side. The application of the chromic acid was followed by intense pain in the back of the neck, throat, top of the head, elbows, wrists, knees, and ankles—in fact, as Dr. Nichols said, it seemed a "storm of pain." This condition continued for several hours, when she was removed to her apartments and put to bed. Remedies were used to relieve the pain and produce sleep, but they had little effect. The following day she had great pain over the bridge of the nose, vertex, back of the neck, anterior border of the sterno-mastoid muscles, and extending to the tips of the fingers. She was unable to move any part of the body without severe pain and tenderness, and suffered also from partial aphasia, which became complete at times.

On the third day after the operation, she fell into a cataleptic state from which she could be aroused with difficulty—pupils contracted, respiration shallow, heart's action normal. This cataleptic condition continued over an hour and recurred daily for the succeeding ten days. General hyperæsthesia was very marked. Exposure to the air or the slightest touch caused great pain. These symptoms continued with little improvement for the next two weeks, when a tender red swelling appeared on the left instep, and also one in the palm of the left hand. These spots puffed up at times and became extremely sensitive.

On November 23d (over a month after the operation), she had improved sufficiently to allow of her removal to Mount Vernon, N. Y. The change seemed beneficial, and a month later she was removed to her home in Vermont. At the present time, she is far from being in her usual health. The swelling on instep and palm of hand are now quite hard and tender when pressed. This case was seen by several physicians in consultation with Dr. Nichols, and pronounced peripheral neuritis.

These cases represent three classes of affections fol

lowing operations, viz., neurasthenia, neuralgia, and peripheral neuritis. My first two cases, and one of Dr. Nichols, showed marked symptoms of neurasthenia immediately following the operations. While these patients would be considered as belonging to the neurotic type, none had previously shown any of the symptoms they now developed, nor had they any reason for posing as invalids or objects of sympathy. I was very careful not to make any suggestions or ask any leading question about the feelings of these patients, but allowed them to describe their symptoms in their own words. I mention this, as Dr. Seguin, in writing of traumatic neuroses, says that suggestions or leading questions planted in such a psychic soil are pretty sure to bear fruit; they germinate and expand later in the form of new and "interesting" symptoms, the reality of which the patient never doubts. The neurasthenic cases bear a marked similarity in their histories. The sudden development of the symptoms immediately after the operation, all complained of pains and peculiar feelings in the frontal region and between the eyes, constriction around the head, and pain in the occiput, inability to read or sustain thought, great depression of spirits, and hopelessness about the future. They are quite unable to perform their ordinary duties and employment, and feel they will never be able to do so, and are constantly fearing some new affliction.

The prognosis of traumatic neuroses following railway and other serious accidents, is said to be very unfavorable; but judging from these cases, recovery seems certain, although prolonged. It seems to depend somewhat on the severity of the shock and the condition of the patient at the time of the operation. The cases of Mrs. W. and Mrs. F. were more neuralgic in their character; while both suffered from depression and other neurasthenic symptoms, it was probably due to the extreme pain they experienced.

I might relate many cases of pain in the teeth, eye, ear, face, and head attending operations on the nasal passages, but it would only be making statements with which many of you are already familiar.

In conclusion, gentlemen, I think you will bear me out in the statement that operations in the nasal passages should not be undertaken lightly, and with the impression that, if they don't do any good, they will not be harmful; also that great experience and judgment may be required to determine the cases suitable for operation and likely to be benefited thereby.

The cases I have given you to-night bring before us another condition which must always be taken into consideration, and from my present experience I would advise a careful inquiry into the past history of every case before operation, and a careful examination of the present state of the nervous system. If the patient is very neurotic or gives a history of having suffered from what is called nervous prostration, although the physical condition might be excellent, I would discourage operative measures, unless imperatively demanded.[1]

A Grasping Lot.—The story is told in the newspapers that a certain M. Heriot, the owner of the big store called the Louvre, in Paris, was sent to the insane asylum by his relations because he insisted upon giving $1,000,000, which he could readily afford to lose, to founding an orphanage for soldiers' children. The local authorities finally ordered that he should be removed from a private asylum and placed in a public one, and it was quickly found that he was not insane at all. For thirteen months' treatment the private asylum doctors demand $22,500, the local doctors want $20,000, three medical students who helped find him crazy, $13,500, and the keepers $5,000.

[1] I relate the following incident, as an amusing illustration of the effect of impressions on some persons: One of the lady type-writers who made copies of this article, while reading the description of the grating of the saw in the patient's nose, became hysterical and, as she expressed it, nervously prostrated at the idea, and was unable to work for the remainder of the day.

DR. FREIRE'S PROTECTIVE INOCULATION —FACTS VERSUS FIGURES.

By GEORGE M. STERNBERG, M.D.,
MAJOR AND SURGEON, U.S.A.

THE MEDICAL RECORD published some time since a translation of a communication, made by Dr. Domingos Freire, of Brazil, to the French Academy of Sciences, relating to his protective inoculations. This summary statement has been copied in this country by *Science*, and probably by other journals, and will doubtless be read by many who will never see a copy of the volume containing my official report[1] of investigations made in Brazil, in which I show that Dr. Freire's statistics are misleading, and that his "vaccinations" have no prophylactic value.

Dr. Freire's recent statistics have also been brought to the notice of the profession by an article by Dr. J. McF. Gaston, published in the *Journal of the American Medical Association*, March 22, 1890. In order that the profession in this country may be able to estimate Dr. Freire's statistics at their true value, I beg leave to call attention to the following facts:

First, there has been no veritable discovery of the specific germ of yellow fever, and consequently there is no "attenuated virus" at Dr. Freire's command with which to vaccinate against the disease. It is certain that the micrococcus, which he presented to me at the time of my visit to Brazil as his yellow fever microbe, has nothing to do with the etiology of this disease. A careful bacteriological study of forty fatal cases, made in Havana since my return from Brazil, enables me to affirm this in the most positive manner.

There is then no scientific basis for the wholesale inoculations which Dr. Freire has made, and his statistics, when viewed in the light of certain facts not brought out in his publications, give no substantial support to his claims.

As my personal investigations were made in the city of Rio de Janeiro, and a majority of Dr. Freire's inoculations have been made in that city, I shall consider at present only those figures which relate to his recent inoculations in the Brazilian capital. With reference to these, Dr. Freire says in his latest publication:[2]

"Between March 1 and June 30, 1889, 2,407 persons died of yellow fever (including the deaths at the Jurajuba Hospital), 21 of whom had been vaccinated—that is to say, that 2,386 non-vaccinated persons succumbed to the disease (1,606 in the city, 800 at Jurajuba, in all)."

Now, the total population of Rio is estimated at 400,000. Let us suppose that 100,000 of this population enjoys protection from having suffered an attack of the disease; we have left 300,000 persons who may fairly be compared with those vaccinated by Freire, and who were exposed during the epidemic. The mortality upon this estimate is 1 in 125 and a fraction ($\frac{300000}{2386} = 125.7$). Among the 2,087 vaccinated there were, according to Dr. Freire, 21 deaths (loc. cit., p. 16), that is, 1 in 99 and a fraction ($\frac{2087}{21} = 99.38$). It will be seen that this comparison is not at all favorable to Dr. Freire's method. But no doubt he will claim that the comparison is unfair, and that the 2,087 vaccinated by him represent a greater proportion of susceptible persons than the 300,000 with whom we have compared them. Let us, then, deduct another 100,000 of the population, considering one-half as protected by a previous attack or long residence in the city. The remaining moiety includes the entire foreign population, Brazilians not born in the city of Rio, all young children, who, according to Freire, are to be classed with strangers as to susceptibility; in short, a population that may be fairly compared with those vaccinated.

The ratio of mortality under this estimate is 1 in 83 and a fraction ($\frac{200000}{2386} = 83.78$). But in this compari

[1] Annual volume of the Marine Hospital Service for 1889.

[2] Statistique des vaccinations au moyen des cultures du microbe attenue de la fièvre jaune (Rio de Janeiro, 1890).

son we have ignored some very important factors which are in favor of Dr. Freire's statistics. A large number of the deaths, no doubt, occurred among strangers who did not belong to the population of the city, and especially among the sailors on foreign vessels arriving during the epidemic, who are commonly sent to the Jurajuba Hospital when taken sick. On the other hand, we have no definite information as to the precise date when the vaccinations were practised, and no data with reference to the exposure before and after vaccination. In the statistics of previous years a very considerable number of persons were vaccinated after the epidemic had terminated—that is, persons who had passed through the epidemic season without contracting the disease were vaccinated, and counted among those supposed to be protected from an attack by this procedure. Evidently, the later in the epidemic the vaccinations were practised, the less value can be accorded to the subsequent exposure as a test of protection. Previous exposure without being taken sick is, on the contrary, evidence of comparative insusceptibility. To put those vaccinated on the same footing with the 200,000 of the population of Rio with whom we have compared them, they should have been vaccinated at the outset and exposed in the infected city throughout the epidemic season. How many were vaccinated when the epidemic had commenced to decline, or after it had practically terminated? How many left the city soon after being vaccinated? These are questions we cannot answer for 1889, but the facts with reference to 1884, 1885, and 1886 are given in my published report heretofore referred to, some extracts from which I beg leave to quote. Referring to the year 1885, I say:

"Dr. Freire has omitted to state one very important fact with reference to vaccinations practised during the period included in this tabular statement. The date of vaccinations is not given. Fortunately, I am able to supply this omission from his journal containing the names of the vaccinated, which he kindly placed in my hands during my stay in Rio. I find from this record that the inoculations were practised as follows:

January	392
February	342
March	611
April	139
May	273
June	813
July	481

"Now, it is well known that June and July are months during which yellow fever does not prevail in Rio, and that, in fact, the month of May furnishes as a rule but few cases.

"The exposure even in an epidemic year amounts to very little during the months of May, June, and July, and may be considered practically *nil* in a year like 1885, when the whole mortality was only 278 in a city of 400,000 inhabitants. But Dr. Freire has included in his list 1,294 persons who were vaccinated during the healthy winter months of June and July, and who presumably had been exposed during the preceding comparatively unhealthy months of January, February, March, and April. If these 1,294 individuals were protected from an attack of yellow fever by the inoculation practised in June or July, what protected them from being attacked during the preceding epidemic season? We must insist upon excluding these 1,294 persons from consideration during the year 1885, to which the report under review relates, and we think that it would be quite proper also to exclude those inoculated during the month of May, but will not insist upon this point. We have then to consider the value of the evidence offered by Dr. Freire as regards 1,757 inoculated persons, instead of 3,051 included by him in his statistics for the year.

. . . . . .

"Again I find that, in 1886, as in 1885, Dr. Freire has included in his statistics a large number of persons who were vaccinated after the termination of the epidemic, and whose exposure was but little greater than that of the 1,476 imaginary persons who must be added to his list in order to give the mortality of 1 per 1,000.

"Dr. Freire has not given us the date of his vaccinations in his elaborate presentation of his statistical results, but I find from his manuscript record that they were distributed throughout the year as follows—I place in parallel column the figures showing the total mortality from yellow fever during the period:

Month.	Vaccinations.	Total deaths from yellow fever.
1886.		
January	84	135
February	376	234
March	253	347
April	167	220
May	945	48
June	21	18
July	57	9
August	3	2

"This table shows that during the epidemic period, from January 1st to April 30th, there were 880 vaccinations, and during the same period 936 deaths occurred from yellow fever, while during the months of May, June, July, and August, when the total mortality was but 77, the number of vaccinations was 1,026; *i.e.*, a majority of the vaccinations were practised after the epidemic season was over, and upon persons who, no doubt, had for the most part passed through the epidemic season without contracting the disease.

"We turn now to the age of the vaccinated persons. Dr. Freire says, in his report first quoted: 'The greater proportion of the deaths is comprised between one and thirty years. This is, then, the period most favorable for the development of yellow fever. Now, it will be seen that among the number vaccinated, which we give in the second part of our statistics, 2,624 individuals are comprised in this period. But Dr. Freire has elsewhere shown us that the age which gives the greatest mortality is from twenty-one to thirty years. Let us then see what proportion of the vaccinated are included in these limits. Reference to his tables shows the deaths between twenty-one and thirty years of age to have constituted thirty-nine per cent. of the entire mortality, while only fifteen per cent. of the vaccinated fell within these limits of age. On the other hand, forty-three per cent. of the vaccinated were less than ten years of age, while the mortality for this period was only 12.5 per cent. of the entire mortality. We note, also, that a large number of the children vaccinated were infants below two years of age.

. . . . . .

"In Dr. Freire's report under review, he says, on page 7: We include in these figures all the vaccinated during the two previous years *who have been carefully observed during the epidemic season.*

"That portion of the sentence which I have italicized surprises me exceedingly. From what has been said, it will be seen that a careful observation of the floating population of the cortiços, in which most of the vaccinated persons resided, would be practically impossible, even with a large force of inspectors at command.

"Dr. Freire himself did not find time to make the vaccinations among these poor people of the cortiços, but delegated this work to certain apothecaries. One of these, Mr. Telles, informed me that he had himself vaccinated between three and four thousand persons. He also communicated the startling information that none of those inoculated with the 'attenuated microbe' of yellow fever had contracted small-pox during the recent epidemic in Rio, leaving me to infer that the vaccine was a protection against both diseases. This intelligent (?) apothecary, a mulatto, recorded a large portion of the statistics which Dr. Freire has tabulated."

I have said enough to show Dr. Freire's method of manufacturing statistics, and must refer the reader who desires fuller details to my published report.

MANIA AND MULTIPLE NEURITIS IN PREGNANCY.[1]

By WILLIAM M. POLK, M.D.,

NEW YORK.

THREE years ago a patient secured my services in her then impending first confinement, under the following circumstances:

She was twenty six years of age, and had been married a year. Her marriage having been entered into contrary to the suggestion of her physician, whose opposition had been based upon what he believed to be an organic stenosis at the mitral valve. She had become in a measure acquainted with the dangers of pregnancy and labor in the face of such a lesion, and was, therefore, somewhat solicitous as to the outcome of her then condition. Examination revealed a loud mitral stenosis murmur, but apart from that sound the condition of the patient, in all particulars, was as good as could be wished for. This continued to be her state up to the time of labor.

The labor was in every way natural, the supposed cardiac lesion causing no symptoms or inconvenience whatever. She passed through her convalescence remarkably well, and after nursing the child for a short period continued in the best of health. I was surprised at the freedom from all cardiac symptoms, not only because of the very evident auscultatory cardiac indications of mitral stenosis, to my ear, but because of my certainty of the impression which had been made upon her former physician, an eminent specialist in cardiac disorders, and one in whose ability I had implicit confidence. Robust health characterized the case until her second pregnancy, which began in June, 1889. About that time the patient began to be subjected to great mental strain. I saw her in July, and found that the nausea and vomiting of pregnancy were beginning to be very troublesome. I was somewhat surprised at this, because, during the whole of the first pregnancy no such symptom had been present. This disturbance of the stomach became so much aggravated that from July 1st to August 20th very little food could be either taken, or, when taken, retained. A careful examination of the various organs, and of the uterus and its surroundings, failed to reveal a single abnormality.

Under these circumstances, and especially in view of the marked emaciation which had taken place—for she had always been a well-nourished person—the question of the induction of abortion came under consideration. It is as well to say that prior to the consideration of this question all the established agents for the control of such nausea and vomiting had been tried. About August 20th, however, the nausea and vomiting began to grow less, and soon ceased, so that by September 1st an ample supply of food was taken.

With the subsidence of the stomachic symptoms, however, there began to appear evidences of mild mental derangement. Perhaps as early as August 12th the first indications of this condition appeared. By September 20th they were so clearly defined that no one could longer doubt the full development of a mild mania. Coincident with the development of the mental disease there appeared evidence of paralysis of the extensors, first of the upper extremities and then of the lower. The paralysis gradually extended until pretty much all motion of the lower extremities was annulled. The same statement applied to the state of the upper extremities, from the elbow-joint down; the arms could be thrown about, but this seemed to be due mainly to the action of the trunk muscles.

The respiratory muscles next showed signs of paresis, and this also gradually increased until the patient died. This occurred about October 25th. September 20th incontinence of urine appeared. Thinking that it might be due to retention the catheter was used several times, but the bladder was always found empty.

Up to October 1st the temperature had shown occasional elevations, but without regularity; but after October 1st the elevations became more decided and regular, the average morning temperature was 99½°, the afternoon and evening 101°F. Still there was not such regularity as to convince one of the presence of any such poison as malaria or typhoid as a complication. The urine, which had become scanty, now began to show pus, and showed it in such quantities as to convince us that the bladder was the source of the elevated temperature.

From September 10th to the time of the patient's death she took food enough to meet every requirement of nutrition, and during the last three weeks of her life she took even more.

This was associated with alcoholic stimulants in sufficient amount. But notwithstanding the fact that an abundance of food and stimulants were taken and (so far as the discharges from the bowels proved) were assimilated, the patient steadily lost ground, and finally died from exhaustion. The mania deepened as the case progressed, and, as already stated, the same held good as to the paralysis.

Dr. Dana, who saw the case in consultation, said the patient when seen by me was in a state of mild, restless delirium. She recognized some members of her family, but was very little conscious of her condition and surroundings; soon forgot every statement made; talked very much and incoherently. She had delusions of a rapidly shifting character, and always more or less depressing. At times she became very excited and maniacal, especially at night.

She had delusions that there were gloves upon her hands, and would constantly ask to have them pulled off. She seemed to think also that there was something upon her foot. She had paralysis of both flexors and extensors of the hands, with entire loss of grip, atrophy of the forearms, and some tenderness over the muscles.

There was also foot-drop and paralysis of the leg muscles of both limbs, more on the right. She could move the thighs, but not the toes or feet. There was considerable atrophy and tenderness; no anæsthesia could be made out in either upper or lower extremities. She evidently had paræsthesia of these extremities and some pain.

The bladder was temporarily involved, so that the patient passed water involuntarily, perhaps because of her mental condition. The rectal sphincter was normal.

It was impossible to make electrical examinations. No cutaneous trophic changes. During the time she was under my observation the paralysis and atrophy increased slightly, especially in the lower extremities. Her mental condition improved somewhat, so that she slept more and was quieter.

Diagnosis was multiple neuritis from toxæmia, and mania of multiple neuritis.

Post-mortem.—The examination included all the organs. All were found normal except the bladder and right kidney, here there was cystitis and pyelitis. The heart was *absolutely normal*. The cord was examined at four different levels, and it, together with the anterior and posterior roots, was found normal. The examination included microscopic as well as gross appearances. Unfortunately, the nerve trunks and muscles were not examined, but as the thorough nature of the examination of all other structures (the case being a supposed medico-legal one) showed no abnormality save in the bladder and right kidney, the inference drawn as to the nature of the paralysis is no doubt fair.

Remarks.—The condition was evidently that of multiple neuritis in a new association; the mania, coming on early, and prior to labor, afforded ample indications for premature labor. Two cases of multiple neuritis of simi-

[1] Read before the Practitioners' Society, April 4, 1890.

lar character are already reported—one in *The Lancet*, one in *Journal of Gynecology and Obstetrics*, Paris.

The points of interest are: 1, the multiple neuritis; 2, the heart; 3, the mania; 4, the cystitis and its extension to the right kidney.

This patient had none of the recognized causes of multiple neuritis, save that of exhaustion incident to prolonged starvation, her habits and surroundings being exceptionally good. The cystitis was evidently due to the use of the catheter in a slovenly subject.

Clinical Department.

BURIED SILK SUTURES.

By ALBERT B. HALE, M.D.,

CHICAGO, ILL.

Dr. Henry O. Marcy, in his article on "The Animal Suture" (Medical Record, March 8, 1890), questions the use of the buried silk suture, and refers to the *New York Medical Journal* of September 14, 1889, for a discussion on that point. I have had no experience in abdominal section, but I had a very interesting case in which I used a buried silk suture with no ill results, while I was acting as surgeon for the Mexican International Railroad. The patient had been struck with a crowbar by a fellow-workman, and when I found him, fifteen minutes afterward, there were all the signs of concussion, a fracture of the frontal bone, and a deep laceration involving the periosteum, muscle, and skin covering the bone. I took three sutures in the periosteum, with sterilized silk, preserved in carbolized oil, and washed in bichloride, 1 to 1,000. These I buried, and closed the superficial wound with the same silk. I am positive the silk was aseptic. The wound healed, and the visible stitches were removed on the fifth day. In ten days nothing remained but the red line of cicatrix. There had been no suppuration. Here, of course, the tissues above the bone are very thin, and any foreign body beneath ought to be perceptible; but no kind of pressure on manipulation could detect the slightest symptom of a foreign body, either to myself or to the patient; and for the three weeks I had him under observation there was every indication that the silk had been absorbed. I was so fortunate in this instance that I should not hesitate to use silk again for the same purpose.

In another case I ligated the brachial artery with aseptic silk, and have heard no report of hemorrhage or suppuration; but as the man passed out of my hands three months afterward, I cannot be positive about the result.

VERATRUM VIRIDE IN TONSILLITIS.

By A. T. HUDSON, M.D.,

STOCKTON, CAL.

There are few diseases that are so quickly recognized and understood by the average practitioner as tonsillitis. Yet it is one that is seldom arrested in its course short of suppuration. "Once having ended in suppuration, it is disposed to take the same course on subsequent occasions; so that in new attacks there is little hope of causing the disease to end in resolution" (Niemeyer). Forty years ago it was considered a triumph to help a patient through anywhere short of death.

Mrs. N——, of this city, had her first attack at the age of eighteen, while living in Massachusetts. During twenty-two years subsequently she had twenty attacks, and every one of them ended in suppuration. She says she was attended by many doctors, the best in the country.

Mr. E. N—— says he has had the disease many times, and always thought there was no cure; so when the disease was upon him he would make preparations for a siege of two weeks "lying-in," and endure the consequences. According to the best evidence attainable in favor of the ordinary methods of treatment, not more than ten per cent. recover without suppuration. It is to reverse these figures, and make ninety per cent. of cures, that I call attention to an old remedy which will do this work. Tincture of veratrum viride, given before the congestion and inflammation have progressed to molecular impairment, or within twenty-four or thirty-six hours of the beginning, will accomplish this end. The dose is four to five drops given every three hours. Often three or four doses will stop the congestion, produce sweating, and permanent relief. Morphine may be added whenever nausea occurs, before the phlogistic symptoms have yielded.

Recently, F. D——, a strong young man, who had been much exposed to rain and cold, came home at night with a sore throat and painful deglutition. This being the fifth attack he knew what was the matter, so he struggled through the night, using hot applications and other things as best he could. In the morning I gave him five drops of veratrum viride, with an eighth of a grain of morphine, every three hours. In the evening there was complete relief; and one more dose, the next morning, effected a cure by resolution. It is no assumption to say cure, in place of recovery.

It is pertinent to note that the three former times this patient had had tonsillitis, I treated him with the above plan successfully, with a term of illness not exceeding three to five days each. About a year before this last sickness was the fourth attack. Owing to my absence another physician was called. He evidently had but a slight acquaintance with the virtues of veratrum viride, and did not use it, but he worked faithfully with other things which gave the patient no relief.

The result was a painful siege of three weeks of confinement, accompanied with a fearful amount of mucus, pus, and dynamic expletives crowding out of his mouth—the old way of relief to such inward fulness. The simplicity of treatment and the promptness of relief, are ample reasons for emphasizing the value of veratrum viride in tonsillitis.

THE TREATMENT OF KELOID.

By A. G. BROWNING, M.D.,

MAYSVILLE, KY.

Referring to the above by George T. Welch, M.D., Passaic, N. J., in Record of Feb. 15, 1890, I beg to endorse it all, and to add: I have obtained even better results from hydrarg. bichlor. and collodion, than from a combination of iodine and the latter; better because I have found the cure quite as certain and more speedy. I don't think "cure" too emphatic, though aware that kelis has so long baffled knife and physic as to become the opprobrium of both. I have, however, removed only comparatively small tumors by this method, generally about the face, and troublesome only to the extent of their disfigurement, or the apprehension induced. The latter, of course on part of patients, who most times present as victims of that popular terror, "rose cancer!" "Rose," possibly, because anything so named may chance to be red; and "cancer," because it isn't known what else.

I use the bichloride in the proportion of 1 to 30 of collodion. The tumor is thickly coated with this, and allowed to remain till it exfoliates—four or five days generally. Another and another is applied in this way, till by successive coatings the growth is reduced to a level with the surrounding surface, when the cure may be regarded as complete. From three to half-a-dozen applications, owing to extent of growth, have generally proven sufficient.

In this strength little or no irritation is produced; the crust drops off, bringing with it a layer of the coagulated tissue, leaving the parts smooth and dry for the next coating. A stronger preparation—1 to 20, may be used, but

sometimes the part after its use is found quite raw. This gives rise to a sharp smarting upon the second application, but that is all; it hasn't appeared otherwise objectionable. No unpleasant symptoms have followed, and I have not yet failed in removing small tumors in this way, if persisted in, and in a shorter time than by any other known method.

The removal of these growths from the face, or localities where from friction or pressure they annoy, is a matter of expediency, chiefly. But, because they are seemingly so trifling, if for no other reason, it is something to give other than the long stereotyped reply, "physic promises nothing, and surgery but little more."

The origin of this treatment of keloid, with me, was sufficiently humble and unpretending—it took root in use of same in corns and warts! While not just congeners, I reasoned, "if so in the green, why not in the dry?"

I have found it do very well—better than anything else.

Progress of Medical Science.

The Comparative Action of the Iodides of Potassium and Sodium.—At the last meeting of the Academy of Medicine, Dr. Laborde read a very interesting note on the comparative action of the iodides of sodium and potassium. He pointed out an error now very prevalent in therapeutics—in considering isomeric substances as possessing the same physiological and therapeutical properties as their congeners. It is thus, for instance, that chlorate of potassium has been replaced by chlorate of sodium, iodide of potassium by iodide of sodium, etc. On the same grounds it was supposed that bromide of potassium might replace iodide of potassium in the treatment of syphilis, but the attempt was eminently unsuccessful. It was also thought preferable to administer chlorate of sodium in stomatitis, because it is more soluble than chlorate of potassium; whereas a more attentive examination would have shown that, while a solution of chlorate of potassium destroys in a short time false membranes, a solution of chlorate of sodium does not act on these morbid products. It was also thought that the alkaloids of the same family could be administered indifferently, those of cinchona, for example; whereas experiment shows that quinine has no action upon the nervous centres, while cinchonine and cinchonidine provoke attacks of epilepsy. It has also been proposed to administer to certain patients iodide of sodium in the place of iodide of potassium. Dr. Laborde opposed this theory, and recalled that Professor Germain Sée had long ago shown the difference of action between these two salts on the blood-pressure, which is augmented by iodide of potassium, whereas iodide of sodium scarcely modifies it. These facts were already established, and he wished to find an explanation of them. He therefore experimented on non-curarized animals, and ascertained that iodide of potassium produced general tetanus, whereas experiments with iodide of sodium, even in double quantities, produced negative results. Iodide of potassium excites the nervous centres, whence its action on the vascular system and on the heart. Dr. Laborde concluded his paper by impressing on his hearers that chemical analogies could give no just appreciation of effects on the organism, and that physiological experiment alone would enable one to establish clearly the indications for the therapeutic employment of divers drugs sometimes almost similar chemically, and yet very different from a physiological and therapeutical point of view.—Paris Cor. *Lancet.*

Segmentary Myocarditis.—At the last meeting of the Académie de Médecine, M. Robin read a paper on "Segmentary Myocarditis." This affection is anatomically characterized by the segmentary dissociation of the cardiac muscular tissue, that is to say, by the softening of the cement which unites end to end the muscular cells. What characterizes this myocarditis from the segmentary myocarditis symptomatic of valvular affections of the heart is the dissolution of the cement. No serous lesions, nor cardiac cirrhosis, nor endo-arteritis of the vessels of the myocardium are observed. The affection is mostly to be found in the aged, and in persons prematurely aged by the abuse of alcohol, or in those suffering from gout, chronic rheumatism, or some other chronic affection. In typhoid fever it may be also met with. The symptom *par excellence* of the malady is arhythmia, or want of rhythm in the pulse and the heart. Two kinds of senile pulse may be observed. In the first the arterial pulsations are neither equipotential nor equidistant, while in the second, which is by far the most important, the pulsations are very regular as to height, distance, and rhythm. Another symptom of segmentary myocarditis consists in effacement of the localized precordial shock. Auscultation reveals in all the patients weakness of the heart sounds, and irregularity of the pulse. An excellent sign which characterizes this affection from mitral insufficiency consists in the absence of tumefaction and sensibility of the liver. However, in most patients œdema of the ankles is observed. It is perhaps needless to say that patients affected with segmentary myocarditis are in a very bad general condition, and should be treated with the greatest care, for a bronchitis would rapidly prove fatal. The treatment consists in the prudent administration of digitalis and general tonics, and champagne.—*Medical Press.*

The Pre-frontal Region of the Brain.—Modern physiologists regard the pre-frontal part of the brain as the seat of character and intellect. After the removal of this part in dogs and monkeys no paralysis of any muscles or loss of sensibility occurs, but singular changes in the behavior, emotions, and character of the animals have been observed. They become livelier, restless, impatient, irritable, quarrelsome, and violent. Their movements seem purposeless, and their attention to what is going on around them and their intelligence are diminished. These observations have been confirmed by similar phenomena in the case of human beings. The well-known "Crowbar case," described by the American physician Dr. Harlow, is one in point. A young man was busy tamping a bursting-charge into a rock with a pointed iron rod, when the charge suddenly exploded and the rod entered his head under the angle of the lower jaw, came out in the frontal region, and was found some distance off, covered with blood and brain-substance. He became childish, wilful, fickle, and restless, and suffered loss of intellectual power. Gradually, however, these symptoms disappeared; he recovered and lived for thirteen years. His skull is preserved in Harvard University. —Berlin Cor. *Lancet.*

Frottement Périhépatique.—Dr. Bertrand, a naval medical officer stationed at Toulon, has called the attention of the Academy to a very valuable sign of abscess of the liver—viz., perihepatic friction sound (*frottement périhépatique*), not described in text-books (*The Lancet*). This perihepatic friction is perceived by the ear and by the hand applied to the right hypochondrium, more frequently at the level of the seventh or eighth intercostal space, on the anterior axillary line, which would appear to indicate the peritoneal origin of the lesion. This sign is the more important as it may precede by several days œdema of the part. The perihepatic friction sound is, moreover, proof that the liver is fixed to the abdominal walls by the peritoneum, knowledge which is not without importance to the surgeon. In general this friction is found at the level of the point where the maximum of pain is felt. It is also at this point where parietal œdema occurs, which would indicate the spot where any exploratory puncture should be made. The author concluded his note with the advice that, in an individual presumed to be affected with abscess of the liver, auscultation should be employed, not only over the respiratory organs, since thoracic migration of pus may have taken place, but also over the liver, to aid in diagnosing the hepatic abscess.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THROMBOSIS AND EMBOLISM OF THE PULMONARY ARTERY.

An article upon this subject, embodying no new cases, but containing a thoughtful review of the literature at hand, with apt illustrations of the disease, is given by Dr. Goodall in the "Transactions of the Vermont Medical Society, 1889."

As to the exact manner in which such clots are formed—whether they arise from a diseased condition of the vessel walls or from a dyscrasia of the blood; whether the primary element in the fresh clot originates from the blood-plasma or from the corpuscles immersed in it—scientific observers are still at variance, and all the more so because of the recent discovery of a new possible agent—the blood-plate. In a large proportion of cases, of course, the clotting in the pulmonary artery is secondary to a clotting in some other part of the venous system. How often it is due to the action of disease-germs and their septic products is not yet known.

A striking instance of the embolic origin of the clot in the pulmonary artery is quoted from Playfair. A lady, six months pregnant, was operated upon for anal fissure. Complete abortion occurred on the ninth day afterward, her pulse, respiration, and temperature having risen considerably during the previous twelve hours, but without any accompanying pain. At the time of abortion, and immediately afterward she experienced extreme dyspnœa, and called incessantly for air. The heart-sounds were almost inaudible, she was pulseless, and her face was very pale and anxious. Two hours later she died, with slight convulsions. At the autopsy, post-mortem clots were found in the heart, and ante-mortem clots in the pulmonary artery. In the centre of one of the latter was found a well-outlined piece of fibrin, three-fourths of an inch long, presenting at its base an irregular surface which fitted closely to a corresponding rough surface in a clot discovered in *the iliac vein*. The uterus was well contracted and quite healthy, and its veins contained no coagula.

Another case cited may be taken as an illustration of primary pulmonary thrombosis. A girl, eight and a half years of age, apparently in the enjoyment of good health, suffered one day from a slight headache. Next day she complained of a collection of phlegm in her throat, which occasionally produced vomiting of tenacious frothy mucus. She was pale, with icy feet and legs. Her eyes were sunken. There was no pulse at the wrist, the action of the heart was tumultuous, the inspirations were very deep. She complained of no pain, only of "something in the throat." At 6 P.M. on the same day she died, having been in bed only three hours. She was conscious to the end. At the autopsy the lungs were found to be congested, and the bronchi were full of mucus. There were miliary tubercles in the left lung. A thrombus was found plugging completely the pulmonary artery. None of the other organs were found to be diseased.

The history of many fatal cases renders it certain that fibrinous clots of the pulmonary arteries may exist for a long time without causing any symptoms which would lead to the suspicion of their existence, until some unusual exertion leads to a demand for more blood than can be supplied through the partly obstructed vessel, or until some extension of the clotting, or some other unfavorable complication occurs.

The prognosis is extremely grave, but it is very probable, if not certain, that such a clot in the pulmonary artery may disappear by absorption or otherwise, permitting the current to flow again in the old channel.

The treatment should be directed toward prevention of the clotting or embolism, toward support of the vital powers during the occlusion, and toward removal of the obstruction. As certain debilitated conditions of the body, with feeble circulation, seem to dispose toward thrombosis, extreme debility and great impoverishment of the blood are to be combated by the tonic and stimulant measures in common use. Especially should persons in such conditions be guarded against sudden exertion, great emotion, and other such unfavorable influences. When clots are known to have formed in the channels of peripheral veins, great care should be taken not to dislodge them and produce embolism. When occlusion of the pulmonary arteries has already occurred, the most complete rest of body and mind should be enforced and plenty of fresh air should be supplied. (Oxygen might be administered with benefit.) Carbonate of ammonia seems to be very useful as a stimulant, and perhaps as preventing further coagulation. It is doubtful whether any drug will produce absorption of the clot. This must be left to the natural powers of the body.

We might add to the above the careful use of antisepsis as a prophylactic measure, as it is probable that pulmonary thrombosis is in many cases due to the entrance of septic matter into the blood.

THE OVARIAN JUICE IN THERAPEUTICS.

In the *Archives de Physiologie Normale et Pathologique* for April, 1890, Professor Brown-Séquard continues his record of experiences with testicular juice, and adds some novel reports upon the use of injections of watery extracts of the ovaries in women. He quotes the experiments of Professor Villeneuve, of Marseilles, upon a hysterical woman, who, after a double salpingotomy continued to have crises. She was treated with injections of the ovarian juice, and cured!

Dr. Brown-Séquard adds that an American lady has been carrying on experiments with the ovarian injections with great perseverance and success. She used the ovaries of rabbits, and prepared and used the extract in the same way as was done with testicles. Experiments

were made upon more than a dozen female patients suffering from debility, insomnia, and uterine troubles. She observed return of strength, relief of insomnia, cessation of hysterical attacks, and in one old lady who had lost her singing voice, a complete return of vocal power!

It is to be regretted that the important juvenescent properties of the fresh ovaries were not known when the removal of these organs was so much in vogue in this and other cities. To have removed the ovaries, chopped them up, extracted their juice, and inoculated the patient with the dynamogenic product of her own organism would have been a superb climax of surgical and medical art.

THE SHORTCOMINGS OF SOAP.

There are probably few people who do not find the joy of living made less keen by having to read each day the advertisements of popular soaps. Their good qualities are so superlatively good, their effect on the complexion, the health, and longevity so unfailing, their chemical composition in each case so remarkably in accord with all that exact science and dermatological art could produce, that it discourages the medical man, who finds so much in his own measures that are imperfect and incomplete.

We read, therefore, with a certain sense of relief the results of an investigation made by Dr. B. H. Paul, in the *British Journal of Dermatology*, on the composition of these highly lauded toilet soaps. Dr. Paul states that for bodily ablution soaps should not contain an excess of alkali but should be neutral or nearly so. He found, however, that among toilet soaps, as usually met with, a perfectly neutral soap is the exception, and that a trustworthy soap of that kind is still a desideratum. Three of five soaps of the higher grade were described as "super-fatted" soaps, one of them being alleged to have been prepared according to Unna's formula. But in fact they all were found to contain the full proportion of alkali required for the saponification of the fat, besides some additional potash, which in one of them was considerable. It seems, therefore, that the perfect soap is yet to be made.

FIRES IN INSANE ASYLUMS.

On May 6th the Longue Pointe Insane Asylum, near Montreal, Canada, caught fire and was destroyed, with the loss of nearly fifty lives. The fire started in mid-day, but, despite this, the building was so inflammable and the means of arresting the flames so inadequate, that a great and shocking loss of life and a great many serious injuries resulted. The institution held about a thousand patients. The loss of property amounts to about $1,000,000.

The event will, of course, call forth many homilies upon the necessity of a more careful provision against fire in insane asylums. But a homily could never be more timely nor receive its impulse from a more tragic event.

In proportion to the number of insane asylums, it seems as though they were subjected to accidents from fire with peculiar frequency. Rarely does a year pass without our having to chronicle some painful accident of this kind. The fact that the insane are more or less confined in locked wards, and that they are unable to help themselves in emergencies, makes it particularly important that special pains be taken to protect them from fire.

In this country, the question has been made a prominent one only in very recent times. Dr. Kirkbride, in his work on Hospital Construction, published ten years ago, devotes but a few lines to it. His recommendations, however, were wise, so far as they went, and were evidently much in advance of those employed in the construction of this Canada asylum.

HYPNOTISM.

Hypnotism continues to be a subject of deep popular interest. One of our daily contemporaries has published a long cablegram containing an account of the hypnotic experiments of Luys and Bernheim, and others in Paris. We observe, also, that a French gentleman whose name is unknown to science has just arrived from Paris, and intends to give America the benefit of his knowledge through public and other seances. It is possible that this gentleman's arrival is more or less connected with the recent enactment in France of the law forbidding public exhibitions of hypnotism. Such a law ought to be passed in this country.

The careful and scientific study of hypnotic phenomena is deserving the attention of medical men, but much of what appears in public prints, especially that imported from Paris, is sensational and untrustworthy.

THE JOHNS HOPKINS MEDICAL COLLEGE.

The daily papers announce that an attempt is to be made to raise a fund of $200,000, to endow the Johns Hopkins Medical School. The hospital already has funds, but there is not enough to establish a college in connection with it. We are also told that this proposed school is to have a female annex, so that women shall be amply supplied with clinical opportunities.

We are much interested in the Johns Hopkins Hospital and its work. It seems, however, that if money is to be raised to endow medical schools, it would be a good plan to help on those already established. Two hundred thousand dollars would place some of the already known schools in a position to give the very best kind of instruction; but it would not go far toward starting a new school, particularly if it is to be run on a co-educational basis.

Iodoform Test for Sweet Spirit of Nitre.—The new Dutch Pharmacopœia, besides directing that sweet spirit of nitre shall be tested qualitatively with ferrous sulphate, prescribes the following quantitative test in which the formation of iodoform is made a criterion. Mix 5 c.c. of the spirit with 10 c.c. of water of ammonia, and add 2 c.c. of a solution prepared from iodine 1 part, potassium iodide 2 parts, and water 2 parts. After the black precipitate formed is dissolved, a further addition of 2 c.c. of the iodine solution should not, within half-an hour, cause the separation of crystals of iodoform.—*Medical Recorder.*

Some Physicians in Fort Wayne, Ind., are trying to afflict that town by the establishment of still another medical school there.

News of the Week.

The Kentucky State Medical Society will hold its annual meeting in Henderson, on May 14th. Dr. G. F. Lydston, of Chicago, Ill., will deliver the opening address, his subject being "Materialism *versus* Sentimentalism in the Study of Crime."

An Echo of the Haymarket Massacre.—Two physicians of Chicago have sued and recovered judgment for $457 for surgical services rendered a police officer who was struck in the thigh with a piece of a bomb thrown by the anarchists at Haymarket Square during the riots in Chicago.

The Iowa State Medical Society has had a very successful meeting in Des Moines. The following officers were elected for the ensuing year: *President*, Dr. William D. Middleton, Davenport; *First Vice-President*, Dr. J. D. McCleary, Indianola; *Second Vice-President*, Dr. J. L. Whitley, Osage; *Secretary*, Dr. C. F. Darnall, West Union; *Treasurer*, Dr. G. R. Skinner, Cedar Rapids; *Assistant Secretary*, Dr. C. S. Chase, Waterloo. The next annual meeting will be held in Waterloo.

The Pee Dee Medical Association.—On April 10th, in Darlington, S. C., the Pee Dee Medical Association held its annual meeting. Dr. C. Kollock read an interesting paper on laparotomy, and the reports of a number of cases were presented and discussed. The election of officers resulted in the re-election of the officers who served during the past year, namely: *President*, Dr. C. Kollock, Cheraw; *Vice-President*, Dr. E. Miller, Florence; and *Secretary* and *Treasurer*, Dr. J. Lunney, Darlington. The next meeting will be held in Florence, in April, 1891.

Removal of a Hospital.—The Philadelphia City Pest-House is about to be removed, as it is in the centre of a rapidly growing district, the further progress of which its presence seriously hinders. The hospital occupies fourteen and one-half acres of ground at Twenty-second Street, Huntingdon Street, and Lehigh Avenue. It was located there by a Commission appointed under an ordinance of November 24, 1862, when it was found necessary to remove the hospital from Corinthian and Fairmount Avenues. It was then thought to be so far away that the city would not reach it for nearly a century. But the march of improvement has been so rapid that in less than thirty years the building line is almost up to the hospital, and people are waiting for it to be removed in order that the property can be improved.

The Iowa State Dental Association held its annual meeting in Dubuque, on May 6th, 7th, 8th, and 9th. About one hundred members were present.

Dr. George W. Miltenberger, who recently resigned the chair of obstetrics in the University of Maryland, has been elected emeritus professor of obstetrics and honorary president of the university. Professor Miltenberger was educated at the Boisseau Academy, in Baltimore, and at the University of Virginia. In March, 1840, he graduated at the University of Maryland, and in the same year was elected demonstrator of anatomy, and has been a member of the faculty for the half century that has elapsed since that time.

The Northwest Missouri Medical Society.—At the quarterly meeting of the District Medical Society of Northwest Missouri, held at St. Joseph, in April, the following officers were elected for the coming year: *President*, Dr. James W. Heddens; *Vice-President*, Dr. F. A. McKinnon; *Recording Secretary*, Dr. Daniel Morton; *Corresponding Secretary*, Dr. W. L. Whittington; *Treasurer*, Dr. George Nash.

The National Association of Railway Surgeons held its third annual meeting in Kansas City, Mo., on May 1st, 2d, and 3d. There was a large attendance of railway surgeons from all parts of the country, and a number of important papers were presented.

Pennsylvania State Sanitary Association.—The fourth State Sanitary Convention of Pennsylvania will be held at Norristown, on Friday and Saturday, May 9th and 10th, under the auspices of the State Board of Health, acting in connection with the Board of Health of Norristown. There will be three sessions on the first day and two on the second. The annual address will be delivered on the evening of the opening day by A. Arnold Clark, member of the State Board of Health, of Michigan. Papers are expected from Hon. H. K. Weand, of Norristown, on "The Necessity for Sanitary Organization of the State under Legislative Sanction"; Dr. C. W. Chancellor, Secretary of the State Board of Health, of Maryland, on "The Purification of Drinking Water"; General D. H. Hastings, on "Some of the Sanitary Lessons of Johnstown"; Professor Pemberton Dudley, of Philadelphia, member of the State Board of Health, on "The Importance of the Early Diagnosis of Communicable Diseases and their Immediate Report to the Health Authorities"; Rev. Mr. Bridenbaugh, pastor of the Church of the Ascension, Norristown, on "The Dangers arising from Public Funerals in the Case of Contagious Diseases"; Professor Henry Leffmann, of Philadelphia, on "The Employment of Salicylic Acid as a Food Preservative"; Dr. J. D. Risley, of the University of Pennsylvania, on "The Eyes of our Public-School Children."

St. Mary's Hospital, St. Paul.—The corner-stone of the new building of this hospital was laid by Bishop James McGolrick, of Duluth, on April 20th. The building will be of brick and Kasota stone, and will be three stories in height. The architect's plans provide that ultimately this building will be only one wing of a much larger structure.

The Syms Operating Theatre.—Work was begun some time since on the excavation for the large operating theatre in the Roosevelt Hospital grounds, but was suddenly discontinued about two weeks ago. It is now ascertained that the hospital authorities began the work at their own risk before they had received the legacy of $350,000 left for the purpose by the late William J. Syms, of this city. They were assured that there would be no contest of the will, but on the day before the legal year expired a protest was filed against the will, and notice given that it would be contested. The result is, that it will be impossible to build the operating-room this summer so as to have it ready for the clinics in the fall. It is not believed that the attempt to break the will will be successful, but the contest causes, nevertheless, a most vexatious delay.

A Small Baby.—Dr. C. G. Hubbard, of Hornellsville, N. Y., reports in the *New York Medical Journal* the birth of a living child which weighed one pound and two ounces and measured ten inches in length. It lived eight hours.

The Gin Cocktail is known to have certain gladsome and refreshing qualities in those milder states of asthenia which follow a day's work and precede an evening meal. Dr. George T. Maxwell, of Jacksonville, Fla., however, in addition recommends the gin cocktail as closely approaching a specific in yellow fever. His formula is: Good gin, ℥ viij.; compound tincture of cinchona, ℥ ij.

One Result of Prince Bismarck's Retirement will, says the *British Medical Journal*, perhaps, be a notable improvement in the eyesight of his countrymen. German oculists almost unanimously attribute the extraordinary prevalence of myopia and other defects of vision in the Fatherland to the use of the national black-letter type in school-books. Prince Bismarck has always resolutely stood upon the ancient ways in this matter, and has opposed the substitution of the Roman for the Gothic character in German books. The party of typographical reform is now hopeful of succeeding in its object.

Honors to Medical Men in Italy.—Professor Paolo Mantegazza, Senator of the Kingdom of Italy, and Professor Alfonso Corradi, of Pavia, have been named Grand Officers of the Order of the Crown of Italy; and Dr. Francesco Morano, Professor of Ophthalmology in the Royal University of Naples, has been created a Knight of the same Order.

The German Congress of Internal Medicine was opened on April 15th at Vienna by Professor Nothnagel, who delivered an inaugural address before the members attending the congress, who numbered about 500. The discussion on empyema—opened by Dr. Schede, of Hamburg, who advocated resection of ribs, and continued by Dr. Immerman, of Basle, who recommended aspiration—was well sustained, and, at its conclusion, it was resolved to institute a collective investigation of the relative merits of various modes of treatment. On April 16th Professor Fürbringer, of Berlin, read a paper on "Bone Disease in Enteric Fever." Two dermatological papers followed, the first by Dr. Unna, of Hamburg, who advanced evidence to show that the universal application of oily substances to the skin tended to raise the body temperature, while gelatine preparations tended to reduce it. Professor Senator confirmed the correctness of these observations, and stated that gelatine might thus be used as an antipyretic. The second, by Dr. Mosler, of Greifswald, on pemphigus, led to an interesting discussion, in which Professors Kaposi and Weber took part. The recent epidemic of influenza was the subject of an address by Professor Bäumler, of Freiburg.

Dr. R. W. Taylor has been appointed Professor of Venereal Diseases at the Vanderbilt Clinic.

Use of the Kola-nut in Armies.—During the manœuvres of the German Army last autumn, numerous experiments were made to determine the practical utility of the kola-nut in enabling men to endure severe and prolonged physical labor. So satisfactory were the results obtained that the authorities are said to have ordered thirty tons of the drug for use in the army.

Dr. Philip Bush, of Marshall's Creek, Pa., died on May 5th, at the age of eighty years. Dr. Bush was graduated from the Jefferson Medical College in Philadelphia, in 1834, and from that time until his death, a period of fifty-six years, practised continuously in the one place.

An Invitation to California.—At the meeting of the Medical Society of the State of California, held in Los Angeles in April, it was determined to invite the American Medical Association to meet next year in San Francisco.

The Bill to Regulate Medical Practice in Maryland, which passed the Legislature, has been vetoed by the Governor.

Kansas State Medical Society.—The thirty-first annual session of the Kansas (State) Medical Society, will convene at Salina, Kansas, Tuesday May 13th, at 8 o'clock P.M., and continue in session the succeeding two days. Railroad fare will be one and one-third, on the certificate plan; reduced rates at all the hotels have been secured for the occasion. Salina is centrally located, easy of access by any of the trunk lines in the State, and it is to be hoped that the many readers of The Record in Kansas will take note of the time and place, and avail themselves of the privilege of attendance.

Dr. Charles H. May has been appointed Chief-of-clinic in Ophthalmology at the Vanderbilt Clinic, College of Physicians and Surgeons, New York.

Kentucky State Medical Society.—The Thirty-fifth Annual Session will be held at Henderson, May 14, 15 and 16, 1890.

Harlem Hospital, New York.—Dr. Edward Fridenberg has been appointed Visiting Ophthalmic Surgeon to the Harlem Hospital.

Dr. Robert W. Wescott, a well-known physician of Elizabeth, N. J., died a few days ago in Lowell, Mass. He was a graduate of the University of Pennsylvania, and was fifty-seven years of age at the time of his death. He was president of the Union County Medical Society for several years. He had been in failing health since the time of the blizzard in March, 1888, when he nearly perished from exposure.

The Union District Medical Society, composed of physicians from Rush, Fayette, and Union counties, Indiana, and Butler County, Ohio, held its annual meeting in Rushville, Ind., on April 24th. There were about sixty members in attendance.

Dr. Yung Do King, a Chinese doctor practising in this city, died recently from consumption. He was a native of Canton and had been in this country seven years, the last of which was spent in New York.

The Fair in Aid of the French Hospital in this city, which was recently closed, brought an addition of about $17,000 to the credit of the association.

Want a Swedish Doctor.—A meeting of Swedes living in Worcester, Mass., was held recently, to discuss the advisability of importing a physician of their own nationality from the other side. It was decided to write to Sweden to learn whether there are any physicians in that country willing to come to Worcester and settle.

The German Surgical Association has received the sum of $25,000 from the emperor. There are some advantages in the monarchical form of government. We see no prospect of President Harrison giving $25,000 to the American Medical Association.

The First Female Surgeon in Austria.—Medical circles in Vienna are said to be somewhat disturbed by an official order granting to a lady, who had graduated at the Berne University, the right of practising in Austria as an ophthalmic surgeon. Before this time even Austrian gentlemen who had graduated at a foreign university have been prevented from practising in Austria.

Dr. William G. Wood died at his home, in this city, May 6th, aged 77 years. He was born but two blocks away from where he died, in 1813, on his father's farm, and began his education at the old Manhattanville school. He then entered Rutgers College, at New Brunswick, N. J., and after graduation studied medicine with Dr. Stevens of this city. He began work at his profession in Harlem in 1840, and built up a very large practice. On his retirement, some twelve years ago, he was the oldest practising physician uptown.

Dr. Samuel Rush Haven, of Chicago, died suddenly at Joliet, Ill., Monday, of paralysis, at the home of his brother, the Hon. Dwight Haven. Dr. Haven was a distinguished physician and surgeon. He went to Illinois in 1834, and went out with the first troops as a Brigade Surgeon under General Grant. He was successively promoted to Division, Corps, and General Army Surgeon in the Army of the Potomac, and served on the staff of Generals Heintzelman, Hancock, and Grant. He was a native of New York State, having been born in Sheridan, Chautauqua County, in 1827.

Dr. William C. Evans, of Erie, Pa., died May 6th, at the age of sixty-one.

The Fifth Annual Dinner of the Faculty of the New York Post-Graduate Medical School took place at the Hotel Brunswick on the evening of Monday, May 5th, Dr. D. B. St. John Roosa, President of the Faculty, presiding. There was a large attendance, composed of members of the faculty and other distinguished gentlemen. The following were the toasts of the evening and their respondents: "The Medical College of New York," by Professor A. A. Smith, M.D.; "The Post-Graduate Medical School," by George Henry Fox, M.D.; "The City of New York," by Logan C. Murray, Esq.; "The Medical Press," by George F. Shrady, M.D.; "The Clergy," by Rev. Wesley R. Davis, D.D.; "The Law," by Cephas Brainerd, Esq.; and "The Medical Profession," by Professor James E. Kelly, F.R.C.S.

To Abolish Capital Punishment.—The bill to abolish capital punishment in this State was killed in the Senate, May 6th, by a vote of 7 to 2.

Onions for Insomnia.—A writer in a daily paper recommends eating raw onions before bedtime as a remedy for insomnia. Evidently he sleeps alone and by an open window.

Coroners' Juries proverbially bring in curious verdicts. The latest is by a Pennsylvania jury. An embankment caved in on some railroad laborers, and the verdict was: "Died of gravel."

Sir William Jenner has retired from practice and intends to devote himself to literary work.

The Treasurer of the Rush Monument Committee reports that so far the sum of $1,325.19 has been raised.

More Medical Colleges Wanted in Austria.—Professor Billroth thinks that Austria ought to establish a number of provincial medical colleges, so as to secure better surgeons for the smaller towns of the country. At present the Vienna School is the only one in which a thorough surgical training can be obtained.

The "Journal of the Medical College of Ohio" is the name of a new medical monthly, published in the interests of the above college, and edited by Dr. James M. French. The *Journal* follows the lines of the Johns Hopkins *Bulletin*. It makes the sixth college medical journal which has been started recently, and is doubtless the forerunner of many others. By the time that every college has its journal, and every hospital its annual report, and every society its transactions, the variety and extent of medical literature will be calculated to overwhelm the most industrious student.

The German Surgical Congress held its nineteenth annual meeting at Berlin on April 9th, 10th, and 11th. Among the topics discussed was that of ether and chloroform. Dr. Keppeter advocated the use of the latter anæsthetic. Several members, including Bruns, of Tübingen, defended the use of ether, while Bergmann declared for chloroform, and pointed out that one must not always attribute deaths that occur under anæsthesia to the anæsthetic; there were cases of death from terror before or during operations without anæsthetics. He earnestly recommended Keppeter's proposal for the collection of statistics. Thieme, of Kottbus, declared bromide of ethyl to be quite unsuitable for real narcosis. Professor Bruns discussed the subject of the treatment of tubercular joint disease. The use of iodoform was advocated, and no new facts developed. Professor Ponfick, of Breslau, read a paper on the surgery of the liver, and showed the possibility of removing large portions of it. From experiments which had been made on rabbits, it was found that the removal of the fourth part of the liver caused only a slight deterioration in the general condition. The removal of the half caused a much more serious deterioration, which, however, passed off in a few days. Even the removal of three-quarters was borne, though with very severe prostration at first. A considerable number of the animals survived this last operation, and recovered entirely. The excision of more than three-quarters of the liver did not succeed. It was found, further, that the liver had an astonishing power of repairing lost tissue. Within a few days the mutilated organ grew to more than its original size, a fact which seemed to have been known to the authors of the ancient legend of Prometheus. Professor Tillmanns showed a case of electro-puncture for aneurism of the aorta. Such an aneurism in a strong man had been completely removed by this method. The speaker used a battery of twenty elements, inserting a Stöhrer's regulator to mitigate the pain. Immediately after the introduction of the needle the aneurism sac began to shrivel, and after a series of sittings disappeared altogether. Details of other subjects discussed will be given later.

Keep on your Hat at the Grave.—A society of clergymen of Topeka, Kan., has passed resolutions opposing the custom, on the part of pall-bearers and friends, of uncovering the head at the commitment of bodies to the grave, and has requested the local medical society for their opinion on the matter. The society has unanimously endorsed the ministers' views.

The Virginia State Board of Examiners has recently issued the first license ever given in that State to a woman to practise medicine.

The Doctors Victorious.—A dispute arose recently between the contract-labor inspectors and the physicians of the Marine Hospital Service, as to which were entitled to a certain room in the Barge Office. The physicians finally obtained the room by burning sulphur in it, and thereby rendering the place undesirable from the standpoint of the inspectors.

The Revue Internationale de Bibliographie, Médicale, Pharmaceutique et Vétérinaire, is the title of a new bibliographical quarterly edited by Dr. Jules Rouvier, of Paris. It gives an indexed bibliography of current medical literature.

Not so New.—It is announced that a Berlin physician, Dr. Bröse, has devised a novel innovation in the field of electro-therapeutics, viz.—he has introduced dynamo-electricity into the office for use in the ordinary electro-therapeutical applications. This novel innovation has been in use by American physicians for four or five years.

Reviews and Notices of Books.

THE STUDENT'S SURGERY, A MULTUM IN PARVO. By FREDERICK JAMES GRANT, F.R.C.S. 12mo. pp. 817. Philadelphia: Lea Brothers & Co. 1890.

THIS compact, condensed manual is an epitome of the author's larger work on the science and art of surgery, and is adapted to the needs of the student preparing for final examination. All the essential points of a work of this kind are incorporated in the present volume, and the required information is given in a becomingly elementary form.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. Consisting of Original Treatises and Reproductions, in English, of Books and Monographs Selected from the Latest Literature of Foreign Countries, with all Illustrations, etc. Volume V., No. 3. New York: William Wood and Co. 1890.

THIS number completes the fifth volume of this popular series of monographs on medical and surgical subjects, and yields to none of those which have preceded it in the variety and general interest of its contents; the physician and the surgeon, the student of infancy and the student of old age, the sanitarian and the neurologist, each finding something in this number to attract his attention and to instruct him. The first article is one on the "Arrest of Growth in Cancer by the Interrupted Voltaic Current" (electro-atrophy), by Dr. J. Inglis Parsons. Following this is a paper by Sir Morell Mackenzie, having the rather sensational title of "The Dreadful Revival of Leprosy." Other monographs are, "Diseases of Old Age," by Dr. A. Seidel; "Urinary Neuroses of Childhood," by Dr. Louis J. Guinon; "Varicose Veins of the Lower Extremities," by William H. Bennett, F. R. C. S.; and "The Uses of Electrolysis in Surgery," by Dr. W. E. Steavenson. The last named article is quite profusely illustrated. An index to volume V. is also contained in this number.

PRACTICAL ELECTRICITY IN MEDICINE AND SURGERY. By G. A. LIEBIG, JR., Ph.D. and GEORGE H. ROTH, M.D., etc. Philadelphia and London: F. A. Davis. 1890.

NOBODY at all acquainted with the general drift of electro-therapeutic literature during the past ten years will be likely to anticipate any radical improvement in that well-worn field, in the immediate future. The fact is that nothing short of some striking departure in electro-physics can do much for us. Such novelties as have appeared are largely technical, so that there has been practically no departure in principle for a long time. Perhaps the nearest approach to a modification of a larger sort is found in Apostoli's method of using strong electro-lytic, or, as he terms them, "chemical galvano-caustic currents."

Recognizing these things, we are not particularly surprised to find that the authors of this volume have nothing especially startling to offer us, either from their own, or the hands of others.

The first part of the book, devoted to the exposition of the laws of electrical and magnetic action, is written in an attractive manner; but we are inclined to deprecate the profuseness with which mathematical formulas are employed in the elucidation of Ohm's and Kirchhoff's generalizations. We acknowledge the difficulty of avoiding such methods of expression; we even admit their justifiableness in works on physics; but, at the same time, we are quite as positive that their presence in a purely medical book is rather a detriment than an advantage. With these trivial exceptions, the book is easy reading, the style is good, and the illustrations abundant and helpful.

THE NEUROSES OF THE GENITO-URINARY SYSTEM IN THE MALE, WITH STERILITY AND IMPOTENCE. By DR. R. ULTZMANN. Translated by GARDNER W. ALLEN, M.D., etc. Pp. 160. Philadelphia and London: F. A. Davis. 1889.

THE little work before us represents substantially a translation of two monographs by Dr. Ultzmann, who for some time past has filled the chair of Genito-urinary Diseases at the University of Vienna.

In our opinion the translator would have done well to subdivide the two long chapters of which the book is composed, as by so doing he would have enabled one to look up special points with much greater facility. As it is, we have neither a table of contents nor an index to guide us; so that there is nothing for it but to hunt about for such landmarks as the profuse paragraphing may afford. Turning from these purely technical shortcomings to the subject-matter of the book, we find that Dr. Ultzmann has performed his task with much ability, both from a theoretic and practical point of view. The descriptions of the neuroses of the genito-urinary system are good, and the classification is in the main serviceable; while the observations on pathology and therapeutics, if not specially original, are at all events sound.

MANUAL OF SKIN DISEASES, WITH SPECIAL REFERENCE TO DIAGNOSIS AND TREATMENT, FOR THE USE OF STUDENTS AND GENERAL PRACTITIONERS. By W. A. HARDAWAY, M.D., Professor of Skin Diseases in the Missouri Medical College, etc.

IN the work before us Dr. Hardaway has attempted to present a most practical handbook of skin diseases in general, and one which will be especially useful to the student as well as the practitioner, in aiding them in arriving at a correct diagnosis, and also in laying down full practical directions in therapeutics.

In part first, we find the introductory observations upon symptomatology, causes of skin diseases, diagnosis, local distribution of skin diseases, and treatment, which are given in such a clear and simple manner that, with a little careful reading, any student or physician can master the groundwork of dermatology. We are glad to see that Dr.

Hardaway does not inflict upon us, as so many do, a new classification, but wisely contents himself with the modified one of the American Dermatological Association. The various diseases of the skin are considered alphabetically, and it is to be noted that a vividly clear and terse clinical description of each disease is followed by short but graphic sections upon the general points involved, etiology and diagnosis; then follow the sections upon treatment, which are especially noticeable for their clear, simple, and practical character. By conciseness of statement, Dr. Hardaway has thus been able to present a most satisfactory summary of directions for the management of all forms of skin diseases, with a great wealth of detail. We are especially struck with the good judgment shown in each instance, of presenting the salient and generally accepted facts concerning each disease, and while not omitting most points, of keeping them in the background. We can especially commend the sections on acne, dermatitis, eczema, syphilis, and the parasitic diseases of the skin, as being particularly full in clinical description and in therapeutic detail; still all of the other and minor diseases receive full and adequate consideration.

A Text-book of Obstetrics, including the Pathology and Therapeutics of the Puerperal State. Designed for Practitioners and Students of Medicine. By Dr. F. Winckel, Professor of Gynecology and Director of the Royal Hospital for Women, Member of the Supreme Medical Council, and of the Faculty of Medicine in the University of Munich. Translated from the first German edition, with permission of the author, under the supervision of J. Clifton Edgar, A.M., M.D., Adjunct Professor of Obstetrics in the Medical Department of the University of the City of New York. 190 illustrations. Pp. xxiii–927. Philadelphia: P. Blakiston, Son & Co. 1890.

Professor Winckel is so well known to Americans, not only as a truly scientific obstetrician, but as a superior teacher, and a courteous, kindly gentleman, that we cordially welcome this excellent translation of his lectures. We already know that he is no superficial observer, and when we read that the present volume represents the results of an experience based upon twenty thousand cases, we are prepared to receive it with the respect which it deserves. It is impossible for us to enter into an elaborate analysis of the book, but a review of the table of contents will give the reader an idea of its scope. A carefully-prepared "Historical Introduction" of ten pages concludes with a list of the works on obstetrics, in all languages, which have appeared up to 1887 (when the first half of the volume passed through the printer's hands). Part I., including five sections, or twenty six chapters, deals with the physiology and management of pregnancy; Part II. (sixteen chapters), with the physiology and management of labor; Part III. (six chapters), with the physiology and management of the puerperal state; Part IV. consists of three sections, including twenty-nine chapters, devoted to the pathology and therapeutics of pregnancy; Part V. (four sections, or twenty chapters), to the pathology and therapeutics of labor; and Part VI. (four sections, or thirty chapters), to obstetric operations; Parts VII. and VIII., including twenty-nine chapters, discuss respectively the pathology and therapeutics of the puerperal state, and diseases of the new-born infant.

Each chapter is preceded by a complete list of references to the literature of the subject, which in itself is invaluable. Pathology, as may be inferred, is a special feature of the work, and represents the results of original investigation on the part of the author. The chapters on obstetric examination are especially valuable, since they show how thorough and conscientious is his method of procedure. It hardly seems, however, as if he had placed sufficient stress upon the difficulties surrounding the differential diagnosis of pregnancy. The general directions on the management of labor are replete with valuable suggestions. Their conservative tendency will be evident from this concluding sentence: "When sent for by the nurse or other person, because of some irregularity, he (the accoucheur) should not go convinced that some operation must be performed; in a word, he should have confidence in the natural forces."

The author does not believe that the diagnosis of ectopic gestation is impossible before rupture, and counsels the use of electricity before resorting to laparotomy, since the latter "is, after all, not an indifferent matter." His teaching regarding the management of abortion may not meet with general approval, at least in New York, since he maintains that "if, in an abortion or immature labor, fragments of fœtal membranes or placenta have remained behind, we are justified and obliged to proceed to operative interference only when there are severe hemorrhages from the uterus, or fever or sloughing set in." "In the absence of these indications," he adds, "I am strongly opposed to cleansing of the uterus, either by hand or instruments, because this method furnishes no guarantee against small remnants being left behind, and against direct inoculation of sanious matters into existing lesions." We cannot approve of the use of ergot, before the uterus is emptied, as he recommends.

The chapter on placenta prævia, and the paragraphs on prolapse of the cord have many practical suggestions. Part VI., which treats of obstetric operations, has an introductory chapter which, though very brief, is pregnant with common-sense. Professor Winckel believes that if the accoucheur recognizes clearly the indications, he ought never to be in doubt regarding which of the two operations should be performed. "Only one of the two is always indicated; an 'or' can never occur where there is an exact recognition of the situation." Chapters III. to VI., inclusive, on general directions, contain numerous invaluable lessons; the key-note of operatic obstetrics is contained in the sentence—"It is not always brute force which conquers!"

The chapter on extraction of the head in breech-presentations is described more clearly and comprehensively than in other text-books, and contains just those details which a student needs. The application of the forceps is carefully described, as are also the more formidable operations. The important chapter on puerperal septicæmia is clear and concise, the author concluding that "none of the processes described has any characteristic peculiar to childbed alone, and is found not only in pregnant, parturient, and lying-in women, but also in non-pregnant women, new-born children, and men." The lucid manner in which this principle is developed will do much to dispel the mystery which has been thrown around this subject by the numerous theorists who have sought to explain it, too often adding to the existing confusion.

In this hasty manner we have only sought to call attention to the salient points of this admirable work, which, though intended and especially adapted to the student, nevertheless will well repay a careful perusal by all who aspire to practise obstetrics according to the most approved modern methods. We would like to see this text-book used in this country, for the reasons that it is clear and concise, that it gives special prominence to pathology, and that every page bears evidences of that thoroughness and sound conservatism which makes its distinguished author unequalled as a teacher of obstetrics. His style is terse, but pleasing; he never aims at mere rhetorical effect. The translator deserves great credit for the manner in which he has discharged his arduous duty. The care which he has bestowed upon it shows that it was a labor of love. He has rendered the original into smooth, readable English, and the absence of foreign idioms is noticeable. We have not observed a single typographical error, which is certainly remarkable in a volume of this size. The illustrations are, with few exceptions, original, and are well executed, the type is small but clear, and the work as a whole reflects no little credit upon the well-known house from which it issued.

Essentials of Gynecology. Arranged in the form of Questions and Answers, prepared especially for Students of Medicine. By Edwin B. Cragin, M.D., Attending Gynecologist to the Roosevelt Hospital, Out-patient Department; Assistant Surgeon to the New York Cancer Hospital, etc. With fifty-eight illustrations. Pp. 192. Philadelphia: W. B. Saunders.

This handy little volume is a distinct improvement upon the ordinary student's compends, since, although extremely condensed, it is not a compilation from a few well-known text-books, but represents a judicious selection from many sources. No author who was not himself a practical gynecologist could have consulted the student's needs so intelligently as Dr. Cragin has done. We commend especially the paragraphs on diagnosis as models of brevity and comprehensiveness. Displacements and fibroid tumors of the uterus are treated at considerable length. The author has the happy faculty of describing the steps of an operation in fewer words than most gynecologists, without sacrificing either clearness or thoroughness, witness the descriptions of trachelorrhaphy, perineorrhaphy and vaginal hysterectomy.

A carefully prepared index and table of contents add to the value of the book, which we cordially commend to the practitioner, as well as to the student. Even the experienced gynecologist might well carry it in his pocket to refresh his memory in the details of his art, especially before a lecture.

On Diseases of the Rectum and Anus. By Harrison Cripps, F.R.C.S., Assistant Surgeon St. Bartholomew's Hospital. Second edition. 8vo, pp. 500. London: J. & A. Churchill. 1890.

The thorough study with which Mr. Cripps has invested his subject has been duly rewarded in the prompt appearance of a second edition. The latter has been made valuable by many alterations in the body of the text, referring more particularly to details of pathology and treatment. Especially is this noticeable in the chapters on rectal cancer and its relief by inguinal colotomy. The points on differential diagnosis are presented in an admirably clear manner and leave nothing to be desired in detail or accuracy. The various forms of adenoid growths of the rectum are also studied with great care and are accurately illustrated microscopically and in gross by a number of beautifully executed plates.

It is unnecessary to allude to the author's views regarding the treatment of those diseases of the rectum commonly met with in practice. Suffice it to say that they agree substantially with all other authorities who have had equal experience and success.

The Year Book of Treatment for 1890. 12mo, pp. 324. Philadelphia: Lea Brothers & Co. 1890.

This welcome annual is brought down in its review to September 1, 1889. It is fully equal to its predecessors, and that is saying a great deal. Among the names of the contributors we notice those of J. Mitchell Bruce, on "Cardiac Diseases;" E. Markham Skerrett, on "Respiratory Affections;" Goodhart, on "Pædiatrics" (medical); Treves, on "General Surgery;" Dr. Berry Hart, on "Gynecology;" Reginald Harrison, on "Genito-Urinary Troubles;" Malcolm Morris, on "Dermatology," etc. Valuable indexes of authors and topics are appended. W. G. Smith, of Dublin, gives a satisfactory summary of the therapeutics of the year.

Manual of Skin Diseases. By W. A. Hardaway, M.D., Professor of Skin Diseases, St. Louis Post-Graduate Medical School, etc. Pp. 434. St. Louis: Theodore F. Lange. 1890.

The dermatologists seem to have had their "innings" at manuals during the past twelve months, just as other specialists in previous years. Most of these publications are intended for those brought as students into personal contact with the authors, who disarm criticism by saying in their prefaces that they present the "matured conclusions of the best authorities," etc., and add personal views merely on a few subordinate topics and on therapeutic procedure. There is thus very little to criticise in the actual matter presented, as it is what everyone believes. We must confess, however, to a decidedly favorable impression regarding Dr. Hardaway's book. For a person beginning dermatology we could wish for nothing more plain. His description of the primary lesions, and the paragraphs on local distribution of skin diseases are especially good for beginners. An alphabetical arrangement of the various affections of the skin renders reference easy. A very definite diet table will help some readers.

A Treatise on Headache and Neuralgia, including Spinal Irritation and a Disquisition on Normal and Morbid Sleep. By J. Leonard Corning, M.D., with an Appendix: "Eye Strain a Cause of Headache." By David Webster, M.D. 8vo, pp. 259. New York: E. B. Treat. 1890.

This (second) edition of Dr. Corning's book, two years after its first appearance, shows an appreciation by the medical public of its many practical suggestions. And we presume that just in the variety and value of the latter lies the secret of its success. The author frankly disavows any intention of studying the various ills of the nervous system in a "spirit of pathological analysis," but has rather desired to directly lessen human suffering. Naturally insomnia receives special attention as being one of the most harassing symptoms of many functional nervous affections. The book is well illustrated. Dr. Webster's contribution is a concise register of considerable clinical experience in a class of cases now very common. No one can read the whole book without getting many valuable therapeutic suggestions.

A Text-book of Human Anatomy, Systematic and Topographical, including Embryology, Histology, and Morphology of Man, with special Reference to the Requirements of Practical Surgery and Medicine. By Alexander Macalister, M.A., M.D., F.R.S., F.S.A., Professor of Anatomy in the University of Cambridge. Philadelphia: P. Blakiston, Son & Co. Pp. 775. 1889.

With so many excellent works on anatomy now before the profession, any new author venturing into the field must have the best of reasons for adding to the literature of the subject. The present work is in some respects a departure from the methods of study usually adopted, and in so far commends itself to the student. Viewed from the stand-points of morphology and physiology the subject is divested of much of its dry detail, and made proportionably interesting and practical. This part of the study, taken in connection with the evolution of form and the nature and arrangement of tissue, naturally leads to a proper appreciation of the fundamental principles upon which true anatomy is based. A very commendable effort is made throughout the work to apply the facts of anatomy to the elucidation of those problems in medicine, surgery, and physiology which are constantly presented to the student. While the author rightly acknowledges that there is little scope for originality in writing a text-book for students, he has done his best to give the descriptions an individuality, and consequent interest, by writing them in the dissecting-room with the cadaver before him. We confess, however, to some disappointment regarding the typography of the work. There is too much of the heavy black letter over the pages, while many of the illustrations are poorly executed, and in not a few the shading is much blurred. The diagrammatic sketches are exceptionally excellent, as illustrating many useful points in the arrangement of structure and in the relations of different tissues to each other. Many of these are original and give a practical turn to the work, and are of great value to the student.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, April 4, 1890.

F. P. KINNICUTT, M.D., PRESIDENT, IN THE CHAIR.

Excision of the Drumhead for Middle Ear Disease.—DR. SAMUEL SEXTON related the history of a case of deafness from chronic catarrh of the middle ear, in which the special point of interest was the fact that there had been unusual delay in keeping the drumhead open. The patient, a woman aged twenty-seven, had come to the infirmary in consequence of deafness and noises in the head, symptoms which had come on gradually, but had suddenly become more marked from cold, so that she was compelled to give up a situation as head-waitress. The symptoms continuing after she had been under observation for a time, he advised excision of the drumhead and larger ossicles. Ether was administered, the drumhead was excised in the usual way, the incus and malleus were removed. The trouble from noises and deafness improved very much, but in the course of three or four weeks the drumhead was reproduced, and it became necessary to remove it again, which was painlessly done without an anæsthetic. Simply a circular incision was made with the knife. The hearing was improved as before. Gradually, however, reproduction occurred a second time, and it was a third time performed, and collodion was painted over the edge of the wound, after which it healed. The patient was examined by him only a week ago, and he found the opening permanent. She had heard well enough for the past two years to resume her position as head-waitress. There had been no unpleasant symptoms at any time, except from the increased deafness during the temporary closure mentioned.

DR. WILLIAM M. POLK then read a paper entitled, "Mania and Multiple Neuritis in Pregnancy" (see p. 526).

DR. DANA said that besides the case reported by Dr. Polk, he had one other under observation. It was that of a woman aged thirty-eight, who had not indulged excessively in alcohol, though she drank moderately. Within one or two weeks after confinement she began to develop a painful atrophic paralysis involving all four extremities, but especially the lower. When brought to the hospital, about a month after childbirth, there was complete foot-drop and wrist-drop, and all the symptoms of a typical multiple neuritis. Mentally, she showed great weakness and aberration of memory, especially as to recent events; no delirium or actual insanity. The paralysis after about a month began to improve, and in three months was considerably better.

Besides the cases of multiple neuritis of pregnancy cited by Dr. Polk, Korsakoff had recently contributed a series in *Arkiv für Psychiatrie*, and had attempted to show that there was a peculiar form of insanity associated with multiple neuritis. This he calls a "toxæmic cerebral psychopathy." In the mildest forms there is simply irritation and enfeeblement, easy fatigue, tendency to morbid fears, insomnia, incapacity to keep attention, imperative conceptions, and sometimes there develops at once an acute mental disturbance, characterized by active sense of dread, anxiety, and fear, with hallucinations and delirium.

In the more fully developed and typical form, there are mental enfeeblement and irritability, with a characteristic confusion as to times, places, and incidents. There is forgetfulness of things recently occurred, while things that occurred some time before are remembered.

The form of insanity resembled so-called "alcoholic insanity." Dr. Dana doubted if Korsakoff had really succeeded in proving that the mental disturbance of neuritis differs from other types of toxic insanity. Korsakoff's cases were interesting; particularly as he shows that the multiple neuritis is sometimes masked by the mania, that it occurs in a slight degree, so that it is not observed after surgical operations, removal of tumors, etc.

CASE I.—Woman, aged twenty-eight. Symptoms of multiple neuritis began toward end of pregnancy. Gave birth to dead child at term. Then the neuritis and psychological symptoms rapidly developed, reaching height in a month. No pyæmia or septicæmia.

CASE II.—Female, aged twenty-two, childbirth, septic fever, pelvic abscess; about a month after birth of child, neuritis and mental disturbance. The neuritis hardly noted.

CASE III.—Woman, developed a month after childbirth; patient had septic fever, pelvic abscess.

CASE IV.—Woman, extra-uterine pregnancy; laparotomy, followed by multiple neuritis and mental disturbance, etc.

The speaker said in conclusion that the multiple neuritis in these cases was due, no doubt, to some poison in the blood, perhaps some kind of ptomaine or leucomaine. It was not due directly to the presence of microorganisms, at least so the bacteriological examinations of Rosenheim showed. But it had been shown that a bacteriological product like pyocyanin can cause neuritis.

Was the Murmur Mitral or Aortic?—DR. BEVERLEY ROBINSON thought some attempt should be made to explain the existence of the murmur in this case, for which a cause could not be found post mortem. The existence of the murmur as described, and the thoroughness of the post-mortem examination, could not be questioned in this case. He thought, therefore, that we would have to fall back on the explanation that the murmur was dynamic, and it might have been accompanied by a heart lesion which, he imagined, would in some cases be difficult to find after death. All would admit that murmurs were occasionally heard for which no cause could be found by the pathologist. Personally, he had never obtained much satisfaction from the explanation of cardiac murmurs based on the theory of certain blood conditions. He had been inclined to believe, and was more inclined to believe now than ever before, that in the heart itself was to be found the cause of such murmurs.

The Time of the Murmur.—With regard to the time of the murmur, that was very important. Was it really presystolic, coming from the mitral orifice, due to auricular contraction, or did it come from the aortic orifice, due in all probability to temporary dilatation, and so nearly presystolic that it could not be distinguished in time from the presystolic murmur accompanying auricular contraction? The observation of many men showed that the situation attributed to these murmurs in text-books was not entirely satisfactory. Clinically, we found that sometimes murmurs which were supposed to be presystolic, and hence indicating a lesion of the mitral orifice, were better explained by a lesion at the aortic orifice or by dilatation at that orifice. Therefore the locality of the murmur would not always enable us to say which orifice was affected.

Temporary Dilatation of the Cardiac Cavities.—There was no question, he said, that in acute conditions of various kinds, temporary dilatation of the cardiac cavities did sometimes occur. He could see no reason, therefore, why this bruit which appeared to be presystolic, and located in a region corresponding to mitral murmurs, could not have come from the aortic orifice, and be due to temporary dilatation which was not manifest at the autopsy.

He understood that there was incontinence of urine in this case, and evidence of inflammation in the bladder, and he asked Dr. Polk whether this was not considered a point in favor of some lesion of the spinal cord in contra-distinction to multiple neuritis.

The Chordæ Tendineæ and Heart Murmurs.—DR. HERMAN M. BIGGS suggested that the mitral murmur in this case might have been due to a chorda tendinea passing directly across the ventricle. This had been the cause of the murmur in two cases which had come under

his observation, in one the murmur being presystolic and in the other systolic. No cause could be found at the autopsy except a chorda tendinea running across the ventricle. This might readily have escaped observation, had one's attention not been directed especially to it.

Pregnancy Complicated by Peripheral Neuritis of Alcoholic Origin.—Dr. E. L. Partridge said he had not seen a case of peripheral neuritis which could be attributed directly to pregnancy. One woman had come under his observation who developed peripheral neuritis at about the third month of pregnancy, but back of it was an alcoholic history. She was delivered of a stillborn child at the seventh month, but the neuritis did not improve. She passed into a condition of alcoholic dementia and died.

Dr. J. West Roosevelt said that he thought it impossible to conceive of any narrowing of the mitral orifice, due to muscular contraction, which could produce a presystolic murmur. It was quite conceivable, however, that, owing to faulty action of the papillary muscles, the mitral curtains might fail to close perfectly during the first part of systole, and that this might permit of a short murmur, closely resembling in point of time the presystolic. Reduplicated first sound at the apex may be mistaken for a presystolic murmur. In regard to prognosis in cases of valvular heart disease, it must always be remembered that the questions to be answered in each case are: 1. How well is the heart doing its work? 2. If the heart works well, is there anything in the patient's general condition to indicate approaching degenerative change? 3. What valve is diseased, how much is it diseased, and is the disease such as to cause stenosis, insufficiency, or both?

A murmur means in itself but little. Whether there be a murmur or not, if the pulse is of good force when compared to the vigor of the heart-action, if the latter be not tumultuous or irregular, and, most important, if the pulmonary second sound be not accentuated, showing that the venous pressure in the lungs is not increased, the prognosis is good; unless there be signs of kidney disease, or signs of faulty heart-action shown by dyspnœa, or palpitation on exertion, or slight dropsy, or unless the patient be evidently suffering from malnutrition, or some chronic disease.

In regard to the condition of the valve, stenosis may be regarded in general as more serious than insufficiency of any valve. Withal, stenosis, mechanically, is necessarily much more serious than mitral insufficiency. The auricles do not possess much muscular power. There are, moreover, no valves at the entrance of the veins. Therefore, the left auricle is but little fitted to drive blood through a stenosed mitral valve. Dr. Roosevelt, in regarding prognosis, emphasized these facts: first, a murmur *per se* is a matter of little moment; second, the really important matter was to ascertain how the heart, as a pump, is doing its work; third, that obstructed pulmonary circulation, indicated by accentuated pulmonary second sound, is the most serious early sign of approaching danger.

Dr. Polk, in replying to the points raised during the discussion, said he was not prepared to deny that a chorda tendinea was not the cause of the heart-murmur, acting in the manner described by Dr. Biggs; he could only say that there was no mention of it in the post-mortem records. Had it existed it probably would have been found, for it was expected the case would be brought into court, and the gentleman making the autopsy anticipated a severe cross-examination.

With regard to incontinence of urine pointing to spinal lesion, on this point he and Dr. Dana had reached the same conclusion. Incontinence did not come on until the patient's mental condition had become seriously impaired; then she had a large, a pregnant uterus; owing to paralysis, she lay almost constantly upon the back. Therefore they were inclined to attribute the incontinence solely to mechanical causes; besides, a most careful examination failed to reveal any degeneration in the spinal cord or nerve-roots.

Regarding the explanation of the heart-murmur suggested by Dr. Robinson, it seemed to be based on the idea of functional dilatation caused by a low state of health. Against this view, however, was the fact that during the first pregnancy and before the second, the woman's health seemed to be perfect. He asked Dr. Robinson whether that met his suggestion.

Dr. Robinson replied that it did in part, but not wholly. We frequently saw persons who were apparently in perfect health, were unaware of heart trouble, when interference with the heart's action did actually exist. Such persons were capable on occasions of making great efforts, but the heart change was liable to manifest itself in an unexpected manner, at any time.

Dr. Polk had understood Dr. Robinson to mean that where these dynamic conditions of the heart existed, the general condition of the patient was at fault; that in such cardiac conditions one had to look to the general health rather than to heart symptoms.

The Significance of Cardiac Murmurs.—An interesting question was suggested by this case, namely, of what significance were cardiac murmurs? Here was a person who was extremely anxious to be married, but who was prevented therefrom for a considerable length of time by the opinion of an able diagnostician, who told her that if she should marry and have a labor it might be her last one. So far as the members of her family were concerned, they anticipated her labor with as much anxiety as they would her execution. Was there, then, any indication which would enable the physician to say to his patient that her cardiac murmur was an evidence of a dangerous condition? or that, on the other hand, it was of no moment whatever? It certainly proved to be of no moment in this patient.

A Cardiac Murmur of Itself of Little Significance.—Dr. Robinson thought the fact had come to be pretty generally recognized that a cardiac murmur of itself meant very little. It came down to the question whether the heart was doing its work well. There were certain ways of determining that point aside from physical signs. One evidence of lack of proper compensatory power was difficult breathing; a second was palpitation; a third was pain in and around the heart. If the heart was neither hypertrophied nor dilated, and there was no renal nor other physical evidence that the heart was suffering, the mere presence of a cardiac murmur should not be considered as of great importance.

Dr. Polk thought the conclusion reached by Dr. Robinson an important one, and one which he would be happy to accept; but as a matter of fact we found mitral stenosis giving rise to scarcely any symptoms at all until the latter months of pregnancy, and then, when it was too late to accomplish much, cause very serious symptoms, sometimes indeed terminating the patient's life.

Dr. Robinson thought the point made by Dr. Roosevelt a good one, and said that he should listen to the heart at the same time of feeling the pulse, comparing the one with the other.

The Value of the Sphygmograph.—Dr. Kinnicutt remarked that many physicians were getting out of the habit of using the sphygmograph, and were relying as formerly on the touch to determine the characteristics of the pulse. If the sphygmograph was capable of indicating anything, it ought to be of service in mitral stenosis. He asked Dr. Roosevelt his opinion on these points.

Dr. Roosevelt said that he regarded sphygmographic tracings as of the same, but of no more, value than the written descriptions by skilled observers of the pulse as ascertained by touch. The sphygmograph is not an instrument of precision, but as a means of record which is valuable in skilful hands.

Dr. Andrew H. Smith inquired of Dr. Polk whether, from the point of view of the obstetrician, the danger was greater in mitral stenosis, or whether it was greater in mitral insufficiency.

Dr. Polk replied, that in practice it did not seem that the danger was greater in the one than in the other; yet mitral stenosis was generally regarded as the cardiac lesion above all others likely to cause trouble during labor.

Dr. A. H. Smith thought that much regurgitation would have a similar effect, namely, to force the blood back on the lungs.

Dr. Polk said that was true, but patients with dilatation to that extent did not usually wish to get married.

Dr. A. H. Smith thought that a practical test would be the patient's ability to go upstairs without distress; her ability, in other words, to bear the extra pulmonary strain.

Danger of Placental Apoplexy. — Dr. A. A. Smith thought the question of danger from marriage in patients having a heart-murmur assumed a wider range than was suggested by the presence merely of such a murmur. Was there danger of the development of pulmonary complications, of renal complications, or of placental complications? Within four years he had had two cases of albuminuria in pregnant women suffering from mitral obstruction. One aborted at the sixth month from placental apoplexy, it being the third time that she had aborted at this period from the same cause. He had seen her on two of the occasions.

The President remarked that the sphygmograph, if of any value in diagnosis, might be of supplementary assistance in the recognition of mitral stenosis.

A systolic murmur in the second left interspace, with maximum intensity an inch and a half to the left of the left sternal line, was not infrequently present in mitral stenosis, and was believed by certain distinguished observers, to be due to the compression of the pulmonary artery by the dilated auricular appendix. As its true origin was still unsettled, the diagnostic value of such a murmur in mitral stenosis, was of very doubtful nature.

Multiple Neuritis.—The President reported a case of multiple neuritis occurring in a boy aged eleven. There was a history of an illness of doubtful nature preceding its development. Marked paralysis of the extensors of both hands and flexors of the feet was present Exquisite sensitiveness in the course of the nerve-trunks of the affected parts existed, with vaso motor and trophic disturbances. The case presented many interesting points, which would be published in detail at a later period.

May a Woman with Heart Disease Marry?—Dr. A. A. Smith inquired of Dr. Polk what advice could be given a young woman who wished to marry and had cardiac disease—aside from the points already brought out in the discussion, which applied to heart disease in general.

Dr. Polk said his mind was very clear on this subject. If the lesion was confined to the heart he would offer no objection to marriage. If, on the contrary, the lesion had extended beyond the heart, he would strongly advise against it. A woman with a patch of congested lung tissue, an hypertrophied liver, and a contracted kidney, could not be considered as in a condition fit for matrimony. But confine the lesion to the heart, and he thought we had no right to assume that she was going to be afflicted with the dangers which we had been taught to look for. In the first place, she was not likely, after marriage, to become pregnant. Many of these women were subjected to endometritis, which was likely to prevent conception, or, if this did take place, abortion was likely to follow. The cardiac condition would not affect her seriously until she had passed the fourth month. The chances were, if pregnancy continued that long it would go on to the seventh month, and then, if thought necessary, premature labor could be brought on, with the birth of a living child. Our means of differential diagnosis, and of medical and surgical treatment, had so far improved of recent years that we were better able to carry these women safely through the duties of matrimony than formerly.

Dr. Partridge was much inclined to agree with Dr. Polk. He thought, however, it was not meant there were no cases of heart disease in which it was not safe for a woman to marry, except where pulmonary congestion, œdema, or enlargement of the liver had taken place. He believed there were cases of heart disease, with commencing dilatation and degeneration, which would make it unwise for the woman to marry, although lesions had not developed outside of the heart.

Dr. Polk said no; that if the patient was not suffering from any secondary effects of the heart trouble, he would assume the heart was in good enough condition to justify marriage. In other words, if the heart was in good enough condition to enable the woman to retain good general health and soundness of the other organs, it was sound enough to meet the exigencies of marriage and pregnancy, when guarded by modern improvements in surgery and therapeutics.

Dr. Partridge thought that the advice which had been given women with heart disease was largely based on tradition, much like that which had been given women mildly insane to marry, with the idea that they would recover. He had seen, as others present doubtless had, women go safely through labor once or a number of times, when they had a lesion of the mitral valves or other heart lesion. He remembered once attending a woman in confinement who had an active pulmonary congestion, and had to be delivered in a sitting posture. She subsequently had another child.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, March 12, 1890.

J. West Roosevelt, M.D., President, in the Chair.

Tubercular Peritonitis with Latent Symptoms.—Dr. L. Emmet Holt presented some specimens removed from a boy two years of age, with the following history:

The patient had been under observation in the Babies' Hospital, where he was admitted two days before death. The father was reported to be sick with pulmonary tuberculosis in Charity Hospital. There was no history of tuberculosis in other members of the family. The child was stated to have been well until an attack of pneumonia, three months before, from which he had never fully recovered. He had continued to cough and lose flesh, and had not been able to walk about. During the last few weeks enlargement of the abdomen had been observed. On admission there were found the evidences of rickets quite well marked, the tongue was coated, cervical glands slightly enlarged, but no change in any other external glands. There were signs of partial consolidation throughout the left lung, particularly behind and in the lower portion. The abdomen was much enlarged and everywhere tympanitic, but there were no evidences of fluid, and no pain or tenderness even on deep pressure. There was no enlargement of the spleen or liver. The superficial veins were not enlarged. There was moderate cachexia. The boy was poorly nourished and small for his age, weighing but eighteen pounds. During the time that he was under observation he lost steadily in weight. The stools were never more than three in number in the twenty-four hours, but all contained a good deal of mucus and were foul-smelling, though they contained no blood. There was no vomiting, and the boy appeared to digest his food well. The rectal temperature ranged from 98.4° to 99.4° F., never rising above the latter point until within a few hours before death, when it reached 100.2°. The child coughed rarely. There were never any evidences of pain. The child lay or sat quietly in his crib, usually listless and indifferent to his surroundings. He had the appearance of a child suffering from malnutrition, but nothing more. The prostration gradually increased and finally passed into collapse, in which the child died.

Autopsy.—The brain was not examined. The left lung was generally adherent both to the chest-wall and to the diaphragm; the adhesions were firm, old, and organized, but there were no tuberculous deposits in the pleura. In the lower part of the upper lobe, and in the whole of the lower lobe, there were very many large and small tubercular nodules, some of which were broken down; considerable new connective tissue was present. The right lung was slightly emphysematous, but in general nearly normal, except that a few tubercular nodules, small and widely scattered, were found; there were no adhesions. The bronchial glands were enlarged and cheesy, and some were broken down. The heart and pericardium were normal.

Peritoneum.—Both the visceral and parietal layers of the peritoneum were universally involved. The omentum was from one-eighth to one-sixth of an inch thick, firmly adherent both to the abdominal wall and to the intestines, and filled with tubercular deposits. All the intestinal coils were firmly united by not very old plastic product, which could be easily separated. The liver was so firmly adherent to the diaphragm that its substance was torn in removing it. The spleen was likewise bound in position. No portion of the peritoneum seemed to have escaped, and in the exudation everywhere were very extensive tubercular deposits. Several small pockets were formed between the adhesion which contained brown turbid serum; about half a pint in all was collected from the abdominal cavity. The liver was moderately fatty, and contained no tubercles except upon its surface. It did not respond to the iodine test for amyloid degeneration. The spleen was firm and not enlarged; a very few tubercular deposits were seen on section. The kidneys were normal.

Intestines.—The small intestine contained great numbers of tubercular ulcers, the largest less than an inch in length, extending transversely in the gut. In several places these had extended to the peritoneal coat, and one had possibly perforated during life, although the adhesions were so firm and so abundant that the tear might have been accidental. The ulcers were generally situated in Peyer's patches. The large intestine contained no ulcers and its mucous membrane was essentially normal. The mesenteric glands were all enlarged and cheesy, and some were beginning to soften. None was larger than half an inch thick and one inch in diameter.

The special points of interest about this case were in the first place, the absence of symptoms with so extensive a pathological process. All the usual symptoms, such as pain and tenderness, fever, ascites, and the presence of abdominal tumors, were wanting. Dr. William Osler, in his excellent monograph upon this subject (Johns Hopkins Hospital Reports, vol. ii., No. 2, 1890), calls especial attention to the frequency with which tubercular peritonitis has been found at autopsy, or during abdominal sections, when it had never been suspected. In the case reported it does not seem possible to have made a diagnosis. A second point of interest was the extent to which the peritoneum was involved, without any very recent process in other parts of the body. Of the 357 cases collected by Dr. Osler, only 27 were in children under ten years of age, so that the disease cannot be said to be very often seen at this time of life. The speaker had seen two other cases of the disease in young children, but never before such a generalized form as in the case presented.

Dr. J. S. Ely thought that the point of entrance of the tubercle bacilli had been the lungs, as is the rule in these cases. This opinion was strengthened by the clinical history, as the first symptoms of any sickness in the child were referable to pulmonary trouble. He believed that tubercular sputum had been swallowed by the child, and had given rise to the peritoneal disease after absorption from the intestine. One of the most difficult things to explain, if this is the sequence in these cases of tubercular peritonitis, is the absence in many cases of any very extensive tuberculous lesion of the intestine. This was a feature of the present case. The peritoneal lesion was very marked, while in the intestine only a few small ulcers were visible. An explanation which had just suggested itself to the speaker, and which he would offer as little more than a suggestion, was the following: We know that in milk-fed children the contents of the alimentary tract throughout its whole extent are acid. In adults, and in children fed upon a mixed diet, the contents of the duodenum, jejunum, and upper part of the ileum are undoubtedly alkaline, but in the lower part of the ileum they have been found to be frequently acid. This is the location of Peyer's patches and of the solitary follicles, through which it is customary to suppose the tubercular bacilli to be taken up. Now, it is a well-known fact that the tubercle bacilli do not grow upon acid media. While in the intestine, and while in Peyer's patches, bathed constantly by the acid contents of the intestine, may they not be checked in their development until they have been carried beyond their incompatible surroundings, into the alkaline medium of the lymphatics and blood-current? Then they would have every opportunity to develop.

Dr. H. M. Biggs said that an argument against this theory seemed to him to exist in the extensive tubercular ulceration of the gut so often found in cases of phthisis.

Dr. Ely replied that, on the contrary, this was rather confirmatory than otherwise, as the contents of the small intestine have been shown only occasionally to be acid, in the majority of cases being alkaline when the person is on a mixed diet. It is because cases like that presented by Dr. Holt are the exceptions that they need explanation, and the acidity of the contents of the intestine is the exception also. Another point in substantiation of this theory was the great rarity of tuberculosis of the colon and rectum where the secretion is acid, and the reaction of the fæces is also acid.

Abnormal Position of the Vermiform Appendix.—Dr. J. S. Ely presented two specimens which had been sent to the Museum of the College of Physicians and Surgeons within the past two days, showing an abnormal position of the appendix. In one case it was coiled up along the cæcum and hidden by the ileum, so that only its proximal end was visible. In the second specimen the vermiform appendix was not visible at all, and was distinctly retro-peritoneal. The specimens were interesting in connection with cases of appendicitis in which there is a retro-peritoneal abscess instead of a peritoneal one. He had once seen a similar specimen in which there were two perforations, but no peritonitis.

Urine with High Specific Gravity.—Dr. J. H. Linsley reported a case in which the urine had a very high specific gravity. The patient was a woman, twenty-five years of age, whose mother had died of heart disease, her father, three brothers, and one sister of phthisis. She herself had always enjoyed good health. She was first seen on February 23d, at which time she had been sick for two weeks. She complained of headache, anorexia, dulness, and general malaise. There had been no marked chill. During several days the temperature ranged from 101.5° to 104.5° F., and the pulse from 112 to 120. The urine was examined three days later, with the following result: Reaction, acid; color, reddish-yellow; odor, fetid; consistence, limpid; specific gravity, 1.050. It was cloudy and had a white or slightly flesh-colored precipitate. The quantity of urea was 0.0033 grm. per cubic centimetre, or 3.3 per cent. The chlorides were diminished, while the phosphates were enormously increased. Microscopical examination showed pavement epithelium, uric acid, amorphous phosphates, and the ordinary bacteria. The interest in the case centred in the high specific gravity, with the proportionally small amount of urea. Supposing the quantity of urine voided to have been 1,500 c.c., taking into consideration the specific gravity and the absence of sugar, the quantity of urine would have been 49 grammes, the normal quantity being 30 to 40 grammes for the twenty-four hours. The exact quantity of urea

was not known, but it was considerably below the normal. Another curious fact was the presence in the same precipitate of uric acid and amorphous phosphates. The excess of phosphates (which formed the precipitate) could be cleared up by adding a few drops of nitric acid; while upon the addition to the urine of a small quantity of liquor potassæ or ammonium hydrate, an enormous quantity of phosphates was precipitated. Dr. Linsley said that he had not had time to consult the literature on the subject to determine the rarity of this case, but in three thousand consecutive examinations of urine he had never seen any such condition as this, and on consulting with several pathologists he had ascertained that they had never observed any specific gravity as high as this in urine free from sugar. The specific gravity was taken not only with a urinometer carefully tested and corrected, but also with a Mohr-Westphal balance at 15° C. Since the time when the urine was examined first, up to the present, the patient's temperature has ranged from 100° to 104° F., and her pulse has always been above 100. She has had no eruption on the abdomen, and no marked symptoms of typhoid fever—in fact, an examination of all the organs gave a negative result. The specific gravity of the urine has not fallen as yet below 1.030 in any one specimen examined, and the excess of phosphates has continued.

In reply to a question whether any investigation had been made to determine the quantity of ash, Dr. Linsley replied that there had not.

Primary Carcinoma of the Gall-bladder.—Dr. H. P. Loomis presented a liver removed the previous afternoon from the body of a woman aged forty-six, who had been in excellent health until about four months ago, with the exception of an attack, two years before, which had been diagnosed as "gall-stones." This sickness lasted two weeks, and the woman made a good recovery. Four months ago she began to have pains in the region of the liver, accompanied by nausea, vomiting, loss of appetite, and progressive emaciation. About one month ago the attacks of pain became more frequent and more severe, and extensive jaundice developed. The urine contained bile, a small amount of albumin, and granular casts. The patient grew steadily weaker, although the nausea and vomiting were not marked at this time, and nourishment was easily retained. Various diagnoses of cancer in different organs were made by various physicians. No tumor was at any time appreciable, but the patient had the characteristic cancerous cachexia well marked.

Autopsy.—The stomach was not dilated, no obstruction at the pylorus was found, and the mucous membrane presented the appearances of subacute gastritis. The gall-bladder was entirely obliterated and its place was occupied by a cancerous mass the size of a small apple, in the centre of which were half a dozen gall-stones. Continuous with this was a second cancerous mass which extended upward and backward into the right lobe of the liver, nearly to its upper surface. There were no nodules in any other part of the liver, which was itself not enlarged, and the changed gall-bladder was so concealed by the free border of the organ that it would have been impossible to diagnose its condition during life. Microscopical examination of a section cut so as to include the nodules and some liver tissue of normal appearance, showed that the cancer-cells followed the capillaries in between the liver-cells, and collections of cancer-cells were seen in sections of the larger bile-ducts. The points of special interest in the case were: 1. The primary development of cancer in the gall-bladder and the non-involvement of the stomach and pancreas. 2. Although the extension of cancer into the liver was, without question, principally by continuity, still the finding of bile-ducts filled with epithelioid cells beyond the cancerous area would suggest that these biliary passages also furnished channels for the advance of the cancer-cells. 3. The question of the causal relation in which gall-stones stand to the development of cancer of the gall-bladder is brought up by this case. Dr. Loomis said that he believed, basing this opinion on clinical experience, that most cases of cancer of the gall-bladder give a history of repeated attacks of biliary colic extending possibly over a number of years.

Acute Exudative Endocarditis.—Dr. Loomis also presented a heart removed from the body of a woman, aged twenty years, who had died in Bellevue Hospital. She had been admitted with the symptoms of severe cardiac disease. The dyspnœa was so intense that she was unable to lie down. Her previous history was unobtainable, as she could not speak any English. During the ten days that she was in the hospital her temperature ranged between 102° F. and 105° F., the pulse was about 128, and the respirations were from 34 to 50. Physical examination of the lungs showed labored breathing, about normal pulmonary percussion, feeble and harsh respiratory murmur on both sides of the chest, and a few moist râles at the base of both lungs. At no time did she have a cough. Four days after admission the physical examination revealed the presence of fluid in the right pleural cavity, and this was confirmed by means of the exploring trocar. A needle being introduced again, a large syringeful of clear blood was withdrawn. Examination of the heart revealed a loud-blowing, mitral, regurgitant murmur, conveyed to the left and heard behind, between the fifth and eighth dorsal vertebræ. Examination of the urine did not give any evidence of disease of the kidneys.

Autopsy.—The left ventricle of the heart contained a mass of partly coagulated blood, presenting the appearance of an ante-mortem clot. The mitral valve was almost entirely destroyed. Vegetations, the size of small olives, projected from the valvular flap, and an ulcer, the size of a ten-cent piece, had eaten completely through one of the leaves of the mitral valve. The vegetations were soft and had all the appearance of being recent, and presented irregular wreaths enclosing the attachment of the chordæ tendineæ. Microscopical examination of sections cut so as to include the vegetations and part of the valve, and stained according to Gram's method, showed no bacteria. The heart-wall and the other valvular orifices were normal. There was no fluid found in either pleural cavity, so that the syringeful of clear blood that was withdrawn must have come from the needle piercing the congested lung. Both lungs had a pale-grayish, leathery appearance under the microscope, and showed scattered patches of catarrhal pneumonia, with intense congestion of the intermediate portions. The liver was of normal size, and showed the lesions of passive congestion. The kidneys presented the same changes. In the spleen, which was slightly enlarged, there was an infarction about the size of a large olive. From a careful examination of the cardiac lesion, Dr. Loomis said that he believed the process was acute from the beginning, and not an acute process engrafted upon a chronic one. No evidences of the bacterial origin of the endocarditis could be found either in stained sections of the destroyed valve or in cultures made in gelatine. Another interesting point in the case was the rapid disappearance of the serum which was demonstrated, not only by physical examination, but also by the exploring trocar, to have half filled the right pleural cavity.

Dr. Biggs, referring to the first case, believed that the cancer had extended chiefly by continuity, and did not think that the bile-ducts were the channels of its extension.

In regard to the second case, he thought that there were no such forms of endocarditis occurring without the presence of micro-organisms. He had always found some forms of pathogenic micro-organisms in these cases, and it seemed to him entirely impossible for anything else to excite an inflammation with destruction of tissue in a serous membrane. When we have destruction and ulceration, he believed that we must have the presence of micro-organisms.

The President said that he thought there was a tendency to attribute a little too much to the action of micro-organ-

isms, and to assume that they must necessarily be present in every case. He believed thoroughly in the pathogenic action of bacteria, yet it seemed to him that when a competent observer has tried to obtain cultures, and has made many sections in any particular case, but has found no bacteria, we ought to accept the evidence as reliable. A point of interest in the case was the fact that serum had been found in the chest at one time, and that it had disappeared not very long after. It showed how quickly serum might be absorbed at times.

Dr. Myers asked how much serum one might expect to find in the lung, and whether if we drew a drachm we would say that that was more than could be obtained from the lung alone. He had several times drawn thirty or forty minims of bloody serum in children, and after death he had been unable to discover any signs pointing to a previous exudation of serum in the pleural cavity.

The President said that he did not know how much serum might be drawn from the lung during life, but he had found it very difficult to get any appreciable quantity in this way after death.

Rachitis—Pachymeningitis Interna Hæmorrhagica.—Dr. William P. Northrup presented some specimens and microscopic sections removed from the body of a male child, aged twenty-three months, admitted to the New York Foundling Asylum at the age of one week, in "fair condition." It was put out to nurse, and returned to the Asylum in wretched condition, anæmic and emaciated. There were râles over both chests, the abdomen was prominent, the spleen was so large that it could be plainly felt. There were no signs of syphilis, and no convulsions or other symptoms of brain trouble.

Autopsy.—The body was emaciated, abdomen flabby and prominent, rachitic rosary well marked, epiphyses of the long bones not especially enlarged. On removing the skull the dura mater was found adherent to the bone, there was hemorrhage into its layers, and at the vertex more or less exudate upon its surface (pachymeningitis interna hæmorrhagica). The lesion was extensive, most marked at the vertex, and extending continuously to the base, where it gradually faded out. The least marked lesions were simple punctate hemorrhages within the substance of the dura, the most extensive lesion was the exudate upon the surface, rather thicker than blotting-paper. There were no thrombi in the sinus. There was extensive broncho-pneumonia (recent) in the left lung, and some marginal consolidation in the right. There were no cheesy masses in the lungs, though the glands were slightly swollen. The liver was enlarged and pale, but not fatty. The spleen was four or five times its natural size, and on section was dry and glistening, not waxy. There was no prominence of the Malpighian bodies. The kidneys were pale and the markings were distinct. The heart was flabby, and the foramen ovale was slightly open, but the ductus arteriosus was closed. The femur, when sawn longitudinally, showed an irregular line of ossification at the lower end of the shaft, at its juncture with the cartilage. There was an irregular bluish-gray zone, shading off from cartilage to ossified shaft. The zone of imperfect atypical ossification was two millimetres in width.

The points of especial interest in the case were: 1. The extensive pachymeningitis. 2. The imperfect, atypical intra-cartilaginous ossification. 3. The case was an excellent example, taken altogether, of rachitis in a child of twenty-three months. Pachymeningitis is not given by the authors as a usual complication of rickets, and seems in this case to have been rather a natural accompaniment of the depraved general blood condition.

Chylous Ascites.—Dr. H. M. Biggs showed a bottle containing some fluid from a case of chylous ascites. The patient was addicted to alcohol, and gave a history of gradually developing cirrhosis of the liver. The fluid removed at the first tapping was perfectly clear, but the fluid that oozed through the trocar opening was white like that presented to the Society. No fat could be seen on examination of the fluid under the microscope, although chemical examination shows the presence of fat in fluid of this kind.

The Society then went into executive session.

Correspondence.

"JUSTICE TO HOSPITAL GRADUATES."

To the Editor of the Medical Record.

Sir: Under this heading, in the Medical Record, April 19th, Dr. R. Ellis attempts to apply the *reductio ad absurdum* to Dr. Abbott's proposition to establish the degree of Hospital Graduate (H.G.M. or H.G.S.). It seems to me that his criticism is unwarranted and fallacious.

If out of every ten graduates of a medical college two serve a term as hospital *internes*, they are better fitted to begin the practice of medicine than are their eight colleagues. This fact is appreciated by the general public. Nor can it be injurious to the elder practitioners—whose attainments are well known and appreciated by their large *clientèle*—if the clinical advantages possessed by these two young men are recognized in the degree of Hospital Graduate.

In Philadelphia we have a few men who never graduated at any medical college, but on account of many years of practice were recognized as physicians under our Registration Law. One or two of these men could claim the degree of C.G. (Clinical Graduate) suggested by Dr. Ellis, but would he abolish the degree of M.D. simply because in their cases it means nothing?

Dr. Ellis says "Let our colleges and medical schools give degrees gained only by hard work, and let the matter end there," etc.

Theoretically this is true, but practically it seems unattainable—hence the necessity for State Examining Boards.

The fact is that the competition among medical colleges will effectually prevent the uniform or general granting of degrees "gained only by hard work."

To stop the overcrowding in the medical profession, and to elevate the standard of medical education in this country, the profession must determine the standard of fitness to practise medicine outside of, and free from, the dictation of medical college faculties.

The appointment of State Examining Boards is a step in the right direction, and the establishment of the degree of H.G. would be another step in advance.

The colleges would be forced to abandon didactic for clinical methods of instruction, and the standard of admission would be so raised as to exclude all who had not a thorough preliminary education.

Ultimately it would result in the survival of the fittest of our medical schools, and a lessening of the rush to obtain an M.D.

In the degree of H.G., therefore, we have nothing to lose, but may score a strong point for higher medical education.

T. H. Carmichael, M.D.

4467 Main Street, Germantown, Philadelphia.

To the Editor of the Medical Record.

Sir: In your issue of April 5th there appears an article over the signature of Dr. George E. Abbott entitled "Justice to Hospital Graduates." It will no doubt be in the nature of a revelation to the profession to be informed that these worthy gentlemen have all these years been suffering from injustice, but if it shall appear that they have let us see to it that justice is meted out to them—*fiat justitia ruat cælum.*

The doctor is evidently a great worshipper of titles. The old and comprehensive M.D. is not sufficient in his estimation for the favored mortal who has had the extraordinary advantages of a twelvemonths' residence in a hospital.

In order to distinguish him from the common herd he suggests that, in addition to the doctorate, the title of (H.G.) Hospital Graduate be added. Now, of course, there can be no valid objection to this. Let him have a string of titles as long as his arm if he wants them. Vanity is an inherent quality, peculiar to man and the genus *Pavo*. In the medical man this quality frequently manifests itself in the parade of titles on all occasions; a practice harmless enough in itself, even if it does provoke an occasional smile from the vulgar and irreverent, who refuse to see anything particularly awe-inspiring in a string of capital letters.

Dr. Abbott, in the course of his plea for "justice," makes the following unique and remarkable suggestions:

"For example: A patient desires to go to a strange town, and asks your advice as to whom to consult there; you take the 'Directory' and look up the various practitioners in that town, but can form no idea of the men, except that Dr. A. graduated at such a college in such a year. If, however, you could see among them, So-and-So, M.D., Harvard, '84, H.G.s. St. Luke's, '86, you would know that he is probably the best man to whom to send a surgical case; or if H.G.M., a medical case. Or, if we see So-and-So, M.D., Physicians and Surgeons, '84, H.G.s., Woman's Hospital, we know that of course he is the best man to whom to send a gynecological case. The title of H.G. (Hospital Graduate), if adopted, would represent a preparatory fitting in study, experience, manual dexterity, and in all other respects of far greater value to the community than does the average undergraduate course with its M.D., and very often of greater value than five or ten years of general practice. Adding to this indication of H.G. the letter s. for surgical, or M. for medical, would inform one of the nature of his preparatory work; and adding the name of the hospital would still further indicate the character of his experience."

Now I have no doubt that "So-and-So, M.D., H.G.s.," etc., would be a very competent man to treat a surgical case, but might it not be barely possible that there is someone else in "town" without the title of H.G.s.—just a plain M.D.—who could as successfully adjust the fracture or reduce the luxation? Again, might there not be someone in "town" who could treat a case of colic quite as scientifically as "So-and-So, M.D., H.G.M.?"

But when we come to a gynecological case we must not proceed rashly, for Dr. Abbott emphatically says that "So-and-So, M.D., H.G.s., Woman's Hospital," is, of course, the best man to whom to send this case, and the doctor ought to know, for does he not modestly inform us that he is himself an *alumnus* of the Woman's Hospital?

I do not wish to depreciate in the slightest degree the value of hospital training; on the contrary, it is a most desirable preliminary for the general practitioner. But it is not, however, as Dr. A. would have us believe, an indispensable condition to success and fame. In almost every community may be found men who, although never *internes* in a hospital, are nevertheless thoroughly competent to treat any medical or surgical case they may be called on to attend. Indeed many men of this class have risen to eminence in the profession.

Marion Sims could not write H.G. after his name, but nevertheless he emerged from his obscurity in the pity..,wing of their undermined condition, they could two overcome; a certain other proportion, again, died of pelvic abscess, peritonitis, etc., the cause of which was never determined. I speak positively of these last two conditions from personal observation, and I may add that since I some time ago made this statement, which seemed to be accepted at that time with doubt by some, I have had the satisfaction of having my views confirmed several times by others, who made a careful investigation at the post-mortem table. A second question is: Why is it that so many patients with diseased uterine appendages get well with ordinary treatment?

[1] Read before the New York Academy of Medicine, Obstetrical Section, April 24, 1890.

FEMALE PHYSICIANS FOR INSANE WOMEN.

To the Editor of the Medical Record.

Sir: I was much surprised to read in an editorial of your issue of May 3d these words:

"It is a very well known fact that, as a rule, women do not want to be attended by women doctors, and it is hardly fair to take advantage of their lunacy to impose such upon them by law."

If this statement were true, it would be impossible to explain the continued increase of "women doctors," who find so many women who do wish to be treated by them as to afford continually increasing incomes to their physicians.

The statement really illustrates the logical vice, known as "the undistributed middle," where a particular is interpreted as a universal and deductions drawn from it as such. There are *some* women who do not, "as a rule," wish to be treated by women doctors; yet even these often prefer to be treated by some women, or in some emergencies.

In the bill under discussion there is nothing that would prevent any female patient from profiting by any special or superior skill that might exist among other than the female members of the medical staff. But "it is well known" that such special skill, as estimated by any scientific standard, is extremely rare in American insane asylums. These are rather "asiles" for the guardianship of the insane than hospitals with any pretence for their treatment. As guardians, it is impossible to deny that women are intrinsically more suitable than men to take charge of insane women. The popular basis upon which largely rests the movement for placing such guardianship in the hands of women is, on the one hand, belief in their superior kindness and conscientiousness; on the other, the fact that the prevalence of erotic manias and tendencies among insane women renders the attendance upon them of men physicians often difficult or even impossible.

This quite apart from the question, which I think is still *sub judice*, whether it is often necessary or desirable to submit such patients to gynecological treatment. It is further "well known" that for poorly paid physicians a relatively higher grade of women is usually obtainable than of men. This is shown in the comparative ability of male and female teachers in our public schools. So few positions are open to women: so many women, moreover, shrink from the struggle of open competition in the world, and prefer a fixed position in an institution, that a supply of women capable of fulfilling existing requirements is likely to be larger than that of men who should be equally capable and equally willing.

It is strange to object, as the writer of the editorial does, to filling the position of assistants with "recent graduates" when "it is so well known" that this at present is the universal custom. In the City Insane Asylums on our Islands I have heard of junior assistants having been effectively selected, even before they had passed their final examinations.

The only reason for making it obligatory upon insane asylums to appoint woman physicians is, that all experience has shown that there is most likelihood of official opposition to women wherever there are any special reasons to be urged in their favor. The only medical society in New York City that ever refused to admit a woman physician to membership, and that after her paper had been accepted by the committee on admissions, is the Obstetrical. The Woman's Hospital is the one hospital in the city where the physicians have voted against the eligibility of female candidates for the post of assistants, and, I think, Dr. MacDonald is the only superintendent of an insane asylum who has ever taken the initiative in appointing women assistants. Where there is obstinate unreasonable, and tacitly organized opposition to the just claims to recognition of any class of people, it must often be overcome forcibly, or not at all.

Unquestionably, however, appointments of women physicians, as of men, should only be made after examination, and this should be, whenever practicable, competitive.

In an asylum in this State to which the civil service rules were professedly applied the papers of a female candidate were sent to me for examination. I unhesitatingly rejected her as incompetent and illiterate. It subsequently appeared that this candidate was a nurse or matron, whom the superintendent, when compelled by some outside pressure to nominate a woman physician, had put in the place of one, not expecting that an examination of proficiency would be demanded. When I returned the papers, condemned, to the Examining Board, the place was declared vacant, the vacancy advertised, and subsequently filled by an extremely capable graduate of the Woman's Medical College of the New York Infirmary. Yet this young lady, who passed an excellent examination, and who proved herself fully qualified for the duties of the position, was persistently snubbed by the superintendent who had been so well satisfied to nominate a thoroughly incompetent person, and thus evade the intention while apparently obeying the spirit of his mandate.

I am, sir, yours respectfully,

MARY PUTNAM-JACOBI, M.D.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 27 to May 3, 1890.

JARVIS, NATHAN S., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, relieved from duty at Camp Wade, Kingfisher, I. T., to take effect on the expiration of his present leave of absence, and will report in person to the commanding officer, Fort Verde, Ariz. Terr., for duty at that station. S. O. 102, par. 12, A. G. O., May 1, 1890.

GARDINER, JOHN DE B. W., Captain and Assistant Surgeon. By direction of the President, will report in person to Brigadier-General Wesley Merritt, President of the Retiring Board, at Fort Leavenworth, Kan., for examination by the Board. S. O. 99, par. 4, A. G. O., April 28, 1890.

MCKEE, JAMES C., Lieutenant-Colonel and Surgeon. By direction of the Secretary of War, granted leave of absence for one month and fifteen days. S. O. 98, par. 4, A. G. O., April 26, 1890.

LA GARDE, LOUIS A., Captain and Assistant Surgeon. By direction of the Secretary of War, the ordinary leave of absence, granted in Orders 70, current series, Fort Assiniboine, Mont., is changed to a sick leave; and the extension of said leave on surgeon's certificate of disability granted him in S. O. 43, April 14, 1890, Department of Dakota, is further extended one month on surgeon's certificate of disability. S. O. 97, par. 5, A. G. O., April 25, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending May 3, 1890.

WOOLVERTON, T., Medical Inspector. Detached from Navy Yard, Washington, D. C., and to wait orders.

BEARDSLEY, G. S., Medical Inspector. Ordered to the Navy Yard, Washington, D. C.

HARVEY, H. P., Surgeon. Detached from the Ranger, to proceed home, and wait orders.

HEFFENGER, A. C., Passed Assistant Surgeon. Ordered to the Ranger.

GAINES, J. H., Surgeon. Detached from hospital, Hot Springs, Ark., and granted sick leave.

SPRATLING, L. W., Assistant Surgeon. Ordered to hospital at Hot Springs, Ark.

BOGERT, E. S., JR., Assistant Surgeon. Ordered to the Vermont.

OLCOTT, F. W., Assistant Surgeon. Ordered for examination preliminary to promotion.

AUZAL, E. W., Passed Assistant Surgeon. Detached from the Yantic and to resume duty on board the Galena.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 3, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	13	1
Scarlet fever	80	12
Cerebro-spinal meningitis	2	2
Measles	317	27
Diphtheria	94	28
Small-pox	0	0
Varicella	14	0
Cholera	0	0

The Eiffel Tower as a Mother's Mark.—The Paris correspondent of *The Medical Press* is responsible for the story that a woman from St. Quentin visited (being at the time about four months' pregnant) the late Paris Exhibition. One of the sights which seemed to strike her the most and to have an extraordinary influence on her nervous system was the celebrated Eiffel tower. Small blame to the poor woman! Recently she was confined, and the child bears on its chest a well-defined reproduction of the monument.

Unauthorized Quotations.—It seems that our English brethren also suffer from the unauthorized use of their names and garbled quotations from their writing in the advertisements of patent-medicine venders and others. The following from *The Medical Press and Circular* may interest some sufferers on this side of the water: "It is really urgent that some legislative restrictions should be placed on the disingenuous and unjustifiable use made by quacks and others of more or less garbled quotations from the works of well-known men of science. As matters are at present, the most disreputable individual is apparently at liberty to intercalate such expressions of opinion in such a way as to mislead the public into believing that this or that nostrum has received the personal approbation of the author. To render the fraud more telling, the phrasecology is usually modified and the sense distorted, and the injustice of the original proceeding is thus enhanced . . . If a man's name has a commercial value—not to put it on more ethical grounds—surely he ought to have the power to discuss the conditions under which he will allow it to be used. Scientific men are specially subject to this form of *exploitation*, and they ought to be able to command sufficient influence to secure the adoption of a plan for rendering the repetition of such unscrupulous manœuvres impossible, or at any rate

SIR: In your issue of April 5th there appears an article over the signature of Dr. George E. Abbott entitled "Justice to Hospital Graduates." It will no doubt be in the nature of a revelation to the profession to be informed that these worthy gentlemen have all these years been suffering from injustice, but if it shall appear that they have let us see to it that justice is meted out to them—*fiat justitia ruat cœlum*.

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Original Articles.

SALPINGO-OÖPHORECTOMY AND ITS RESULTS.[1]

BY H. J. BOLDT, M.D.,

NEW YORK.

WHEN seeking for the best method of treatment of any particular disease or pathological condition we are guided to a certain extent by statistics which show the results of various remedies employed in supposed similar conditions, and it is the object of this paper to give such report on the remedy indicated in the title, applied to some inflammatory and non-inflammatory conditions of the uterine appendages, and to elicit in the discussion the experience of some, whom we know to be in a position which affords them good opportunity for observation of the subject under consideration.

In a discussion before the Academy of Medicine, Dr. Coe cited some of the serious ultimate results of abdominal operations which he had observed, some of which have also been seen by others, but the occurrence of them does not mean that the operation should be abandoned; this knowledge should make us very careful to see that the patient to whom the operation is proposed has a condition which, we know by experience, requires such treatment to restore her to health and a life of usefulness.

It is high time that we compare the results of removing the uterine appendages with the results of other treatment; and should this investigation turn the scale invariably in favor of non-surgical treatment, by all means let us abandon the knife entirely. Such comparison must, however, be made by those who have had experience with various forms of other treatment properly employed on the same patient.

Yet no one will deny but what radical operations have been done formerly which the same surgeon, with his increased experience, would avoid to-day; but is it different with other departments of surgery or medicine? New operations and medicaments are grasped with enthusiasm by many of the profession as the panacea for the respective ailment for which they are praised, only to fall into oblivion with personal and reported experience.

The first question naturally asked by pronounced opponents to salpingo-oöphorectomy is: What became of the women in former years, before such operation was in vogue? Surely the same diseases must have existed then. If the gentlemen could have watched those afflicted with conditions in which I urge the necessity of an operation, it would have been found that they dragged themselves along a life of chronic invalidism until after the menopause, or the appearance of some other acute disease which, owing to their undermined condition, they could not overcome; a certain other proportion, again, died of pelvic abscess, peritonitis, etc., the cause of which was never determined. I speak positively of these last two conditions from personal observation, and I may add that since I some time ago made this statement, which seemed to be accepted at that time with doubt by some, I have had the satisfaction of having my views confirmed several times by others, who made a careful investigation at the post-mortem table. A second question is: Why is it that so many patients with diseased uterine appendages get well with ordinary treatment?

[1] Read before the New York Academy of Medicine, Obstetrical Section, April 24, 1890.

Let us bear in mind the development of the tubes from embryonic life to puberty; in this development we find a partial solution of the problem. Unless we keep before our eyes the different anatomical phases which these organs undergo, from the moment that the ducts of Müller form to the time of puberty, we cannot scientifically comprehend the pathology, symptomatology, and rational treatment of diseases of the Fallopian tubes. But it would be out of place to consider the subject in this article, and I would refer you to a most valuable contribution by Wilhelm A. Freund, "On the Indications of Operative Treatment of Diseased Tubes," in Volkmann's *Sammlung klinischer Vorträge*, No. 323, in which he vividly describes, with words and illustrations, the serious consequences of abnormal conditions during the development and descent of the tubes.

To further answer the last question, it must be remembered that many cases that are treated get only a temporary relief; they are thought to be cured, and are frequently so reported by the respective physician. The truth is, that when the ailment returns, with its former or greater severity, many of these patients drift into other hands. Where is the operating gynecologist who has not had such cases come to him in either private, clinical, or hospital practice? And who has not operated upon patients for the removal of pyo-salpinx, and the same patients were treated previously with rest, hot douches, tampons, massage, or electricity? But we must not forget the individual sensitiveness of recognizing the condition of the respective adnexa to warrant their removal, which cases do not require operation, but will do as well and better with some of the various forms of local treatment, etc.

To this latter class unquestionably belong the majority of women in whom the entire tubal canal is patent and the opening pervious or only slightly agglutinated, so that the contents of the tube, be they pus or other secretions, can be drained per the utero-vaginal canal, with and after dilatation of the cervico-uterine cavity; either after the method of Doleris [1] or that practised by Gottschalk [2] and advocated by Polk [3] for chronic endometritis. Also the greater number of those suffering with catarrhal salpingitis, and the ordinary form of ovarian inflammation. Yet there are not a few who suffer most intensely, so much so that life is a burden to them, who have been treated for months, perhaps years, with the best therapeutic agents known to us at the present time; but they have a return of the symptoms of a pelveo-peritonitis almost regularly. It is in such cases that the removal of the adnexa is crowned with the best results, even though the disease be not suppurative.

Allow me to quote only one of many examples from a letter to me from a patient in an Eastern State, who had her adnexa removed a short time ago. "No words of mine can express my gratitude for having been delivered from this sickness, from which I have suffered so much during the past years."

There were many cases in my practice upon whom I had spent weary months with treatment, and when by good fortune a period passed with much less pain, they and I thought, "At last we are successful;" however, at the next period it would be the old, old story, rolling in agony for from three or four days to two weeks. After operation they

[1] Nouv. Arch. d'obstetr. et de Gyn., No. 6. 1889.
[2] Deutsche Medicinalzeitung, No. 30. 1889.
[3] Transactions of American Gynecological Society, vol. xiii., p. 282.

were, as they expressed themselves in several instances, "new-born;" they once more could walk without being bent up, and were not afraid to ride in a street car or carriage for fear of a jar. Will anyone say that electricity, massage, or any other treatment cures such cases, "melts the adhesions?"—an expression which I have heard several times recently regarding the former treatment. All had been tried faithfully and properly.

It is obvious that the physician who not only sees but who actually carefully observes many patients with diseased adnexa per annum, and who perhaps has operated on a number of cases, is more competent and trustworthy to decide upon treatment, than the physician who treats only few cases and seldom or never operates. There is, however, one error into which the best diagnostician may fall, when intestines have prolapsed into the cul de sac of Douglas, and become fixed there by adhesive inflammation, so that the examiner would expect to find a dilated tube on operation.

Now let us look for one of the causes why some opponents decry salpingo-oöphorectomy almost without discrimination. We frequently hear of a patient on whom this operation has been performed, and she has derived but little or no benefit, perhaps feels worse. She passes into the hands of the general practitioner or electro-therapeutist and is cured. It is argued by those physicians, that had that line of treatment been adopted previously without operation such patients would also have been cured and not be minus their adnexa. This may hold good for some cases, but I deny that such suggestion will hold the test on any case which has been personally observed by me in my own or in the practice of others.

Why should those patients frequently not be relieved by the operation alone? Why are they cured subsequently by the same local treatment which before gave no relief, or but a temporary improvement, only to relapse again in a comparatively short time?

There is not a case of severe salpingitis, especially those of gonorrhoic origin, which is not accompanied by perimetritic adhesions to a greater or less extent. The starting-point of the perimetritis is invariably the diseased tube, and according to the intensity of the inflammation and the time of its existence will be the severity of the perimetritis; when such appendage is released from its adhesions we will still have perimetritis remaining; not only that, but a fresh exudation forms as the result of tearing those adhesions, so that when these women are examined some time afterward, we frequently feel an exceedingly sensitive exudate, which is occasionally an encapsulated blood-cyst. It is in this condition that the subsequent local treatment, the exciting pathological condition having been removed, will give a permanent cure.

One would be disappointed if he thought that a patient would have complete relief in a few weeks after operation for chronic tubal inflammation; such occurs only in exceptional cases. Health and entire freedom from pain is not restored for a number of months, in some cases perhaps a year or more; this is due to the long and intense suffering which these women have endured, the whole system having been undermined. Much can, however, be done to shorten the continuance of the local pains so frequently present, if the patient is treated locally and generally, as already noted.

It is also important, in case the condition makes it essential to establish the menopause in the respective case, to remove all of the ovarian stroma; though the tubes are removed, the monthly uterine congestion continues for a long time, as can be seen from the cases in which a portion of the ovary remained; to this A. Martin also calls attention by the case cited by him in his article "Zur Pathologie der Eileiter."[1] This, I think, is confirmed by every operator who has had such cases.

In cases accompanied by many adhesions we are also more apt to get subsequent trouble from adherent intestines, either with each other or to the floor of the pelvis. However, adhesions may form after the simplest kind of an abdominal operation.

Regarding the influence of any particular remedy on adhesions, I have seen two instances in which, at the time of opening the abdomen the first time, it was an utter impossibility to accomplish anything on account of the extensive adhesions existing. Within one year subsequently I had the opportunity to see the intra-abdominal condition again, and to my surprise all adhesions had disappeared. Had these patients been treated with electricity, such result would have been ascribed to it; but no such claim could be made, the patients having been under my personal observation, and the treatment consisted only of good food and a tonic. We know from this that adhesions can and will disappear of their own accord, but why it should be so in some cases and not in others I am unable to explain.

Knowing, as we all certainly do, that some very serious consequences may, and do not infrequently, follow, not immediately to the operation, for that does not often occur in the hands of the experienced operator, but as an ultimate result, it behooves us to look carefully into each case, and not be content with the mere diagnosis of "tubal disease," and then do the operation.

I have always insisted upon the necessity of keeping under observation and treatment the women afflicted with chronic salpingitis, a number of months, and avoid the use of the knife until satisfied that nothing less than the removal of the diseased adnexa will effect a cure. Not so with some acute affections.

Freund, in commenting on my article on "Interstitial Salpingitis," in which I state that I invariably advise immediate operation to patients suffering with puerperal pyo-salpinx, says, that if these cases will first have overcome the puerperal process, leaving only the tubal suppuration behind, they most frequently go on to a spontaneous cure, either with or without rupture of the abscess into the bladder or rectum. He means by this that operative interference is unnecessary. I must differ. If the inflammation is active, although usually the point of rupture is where he states, there are exceptions; it may burst into the abdominal cavity. Again, how much these tubal abscesses after rupture try both patient and physician we all know, and therefore I prefer and advise radical treatment before it has taken place; that is, for all acute cases in which a much distended tube can be recognized. By looking over the appended table, you will find many chronic cases of pyo-salpinx noted, where I state that the probable cause is the puerperal state; this cause is given because, 1. No gonococci could be found in the pus contained in the tube. 2. That by the most careful cross-questioning, no history of infection could be elicited. For such chronic cases the advice of immediate operation is not meant.

The psychical disturbances produced by the operation vary. I have not seen a single case that did not have vertigo, or complained of a full feeling in the head at times—in short, symptoms of cerebral congestion, to which also Dr. H. C. Coe called attention about two years ago. In one case it was so intense that for a number of months it was necessary to resort to venesection and withdraw from one hundred and twenty to two hundred grammes of blood, that being the only remedy which afforded relief. In the greater number of cases with severe disturbance large doses of potassium bromide, either alone or in connection with the use of the Paquelin cautery applied in the nape of the neck, gave a satisfactory result.

This psychical disturbance is the only condition which I have found more marked by the artificial production of the menopause than when the "change of life" comes about naturally. The changes in the genitals, physique, etc., are in my experience identical. I have noted the occurrence of purpura hemorrhagica in one case of sal-

[1] Deutsche medicinische Wochenschrift, 1886, No. xvi., p. 253.

pingo-oöphorectomy, and once after double ovariotomy for ovarian cystomata. Fresh hemorrhages occurred daily about the time of the former menstrual period, for three to four or five days.

Pelvic abscess has been observed but one time after operation in this class of cases. Fistulæ not at all. I attribute this to the non-use of silk for tying the pedicle. Catgut is used exclusively.

Ventral hernia is also a very rare occurrence in my practice. Of the laparotomies done for removal of the appendages, only one patient acquired this malady, to my knowledge.

If we study the cases upon which salpingo-oöphorectomy has been performed it at once becomes clear to us that both the immediate and ultimate result very much depends upon the condition for which it is done, and the cause and duration of the illness.

The observations upon which this contribution is based are the following one hundred and twelve cases, with eight deaths.

Laparotomies for Removal of Pyo-Salpinx.

Number.	Date of operation.	Age.	Married or single.	Number of children.	Number of abortions.	Both appendages or right or left removed.	Time of illness.	Adhesions.	Drainage.	Immediate result of operation. Recovery or death.	Probable exciting cause of suppuration.	Ultimate result of operation on the condition of the patient.	Remarks.
	1885.												
1	Jan. 4.	35	M.	6	1	B.	3 mos.	Yes.	Yes.	R.	Puerperal.	Cure.	Had one abortion three months previously; third month gestation. Drainage-tube removed on the second day. Fever; wasting of patient; sweats.
2	Feb. 7.	33	M.	....	....	B.	12 yrs.	Yes.	No.	D.	Gonorrhœa.	....	Patient was a prostitute of the lowest grade; died on the second day of acute nephritis.
3	Feb. 24.	18	S.	....	....	B.	1 yr.	Yes.	No.	R.	Gonorrhœa.	Cure.	Had three fresh gonorrhœal infections within two years.
4	April 6.	21	M.	....	....	L.	3 yrs.	Yes.	No.	R.	Syphilis.	Improved.	Three years previously had a small non-painful sore on the labia minora, and soon after that a diffuse eruption appeared, which, however, disappeared without treatment.
5	April 11.	34	M.	6	....	R.	4 yrs.	Yes.	Yes.	D.	Puerperal.	.....	Death on the third day from septic peritonitis. The much distended and densely adherent tube ruptured during operation. Left tube enlarged, but did not seem to contain pus.
6	May 23.	29	M.	1	1	R.	3 yrs.	Yes.	Yes.	R.	Syphilis.	No improvement.	Gives history of having had syphilis seven years ago. Complains of severe pain on the left side, where the tube can be felt very much enlarged.
7	June 2.	37	M.	5	1	L.	2 yrs.	Yes.	No.	R.	Puerperal.	Cure.	
8	June 18.	26	M.	3	....	B.	3 yrs.	Yes.	Yes.	D.	Puerperal.	....	Fourth day, from sepsis.
9	July 14.	26	M.	1	....	L.	9 mos.	Yes.	No.	R.	?	Cure.	
10	Dec. 28.	25	M.	5	....	B.	17 days.	Yes.	Yes.	R.	Puerperal.	Cure.	Last child born three weeks previous to operation; chill on third day after confinement. Both tubes were greatly distended with pus; a small portion of the right ovary was not removed, owing to firm adhesions. Drainage for twenty-four hours. Patient menstruated regularly for several months, but has pain in the right ovarian region. February 10, 1887, reports feeling perfectly well, all pain has disappeared, and menstruation ceased.
	1886.												
11	March 6.	22	M.	3	....	B.	1 mo.	Yes.	No.	R.	Puerperal.	Cure.	Child born one month previous; patient had *no* pain; complains of profuse leucorrhœa; occasionally a gush of discharge came, which was followed by a cessation of leucorrhœa for some time. Bowels constipated; on defecation a pressing was experienced in the rectum, which caused an uneasy feeling in the lower part of the abdomen; both tubes were much distended; the uterus crowded upward and anterior. She complained also of a "very weak feeling;" night-sweats occasionally, and "creeping chills."
12	Nov. 17.	33	M.	3	4	L.	4 mos.	Yes.	Yes.	R.	Puerperal?	Not improved.	Was better for some time after operation, but complains now on the side from which the tube was not removed, so that frequently she is unable to work. The tube removed ruptured while separating the adhesions, and the pus escaped into the abdominal cavity.
13	Nov. 17.	28	M.	2	1	B.	2 yrs.	Yes.	Yes.	R.	Gonorrhœa.	Cure.	A small portion of the firmly adherent left ovary was not removed. Patient is perfectly free from pain and discomfort, menstruates regularly. (Seen April 7, 1890. She has ceased to menstruate nearly one year; feels perfectly well; has no reflex symptoms.)
14	Nov. 24.	18	M.	1	..	R.	5 mos.	Yes.	No.	R.	?	No improvement.	One year after operation she was said to be perfectly well. A report received recently stated that she was under treatment, from which I infer that she is ill, and hence report no improvement, although the attending physician gave me no description of her condition on request.
	1887.												
15	Jan. 13.	39	M.	6	1	B.	6 yrs.	Yes.	Yes.	R.	Gonorrhœa.	Cure.	The tissues were so friable that it was impossible to use a ligature, all hemorrhage was stopped with running catgut sutures. The adhesions were exceedingly dense and extensive. Her health is better now (two years after operation) than it has been for many years.
16	Jan. 23.	22	M.	....	....	B.	2 mos.	Yes.	No.	R.	Syphilis.	Cure.	Full report published in MEDICAL RECORD, August 20, 1887. Patient still has attacks of cerebral congestion about the menstrual period, but not as intense as formerly, otherwise perfectly well.
17	Jan. 31.	27	M.	....	3	R.	4 yrs.	Yes.	No.	R.	Puerperal.	Cure.	Had been unable for a long time previously to undergo any physical exertion on account of the intense pain produced in hypogastrium, right ovarian region, and back. Two years subsequently, condition good.
18	March 17.	36	M.	....	2	B.	13 yrs.	Yes.	No.	R.	Puerperal.	Cure.	Patient probably had an ordinary catarrhal salpingitis dating from her first abortion thirteen years ago, and from the time of the second recent abortion it changed to pyo-salpinx, her suffering becoming so intense that life was a burden to her.
19	March 24.	36	M.	4	2	L.	9 mos.	Yes.	No.	R.	Puerperal.	Cure.	Abscess of ovary, corresponding to the pyo-salpinx.
20	May 26.	30	M.	1	2	B.	13 yrs.	Yes.	No.	R.	Puerperal.	Improved.	Had syphilis several years ago.
21	June 12.	23	M.	1	....	B.	6 mos.	Yes.	No.	R.	Puerperal.	Cure.	Operated *after* rupture of the tube. See *American Journal of Obstetrics*, vol. xxii., No. 3.
22	June 19.	36	M.	2	2	B.	4 yrs.	Yes.	No.	R.	Puerperal.	Cure.	
23	June 24.	30	M.	....	....	B.	9 yrs.	Yes.	No.	R.	?	Cure.	One tube distended with pus, and the other with serum.
24	July 27.	29.	M.	....	1	B.	3 mos.	Slight	No.	R.	Puerperal.	Cure.	Operated after rupture of tube. See *American Journal of Obstetrics*, vol. xxii., No. 3.
25	Aug. 16.	25	M.	..	....	R.	4 yrs.	Yes.	No.	R.	Gonorrhœa.	Improved.	The left tube bound down by adhesions behind the uterus; tube enucleated and fastened with one catgut suture to the parietal peritoneum to prevent the appendage from sinking into its old bed from which it had been loosened, had healed over.
26	Sept. 5.	30	M.	....	....	B.	2 yrs.	Yes.	No.	R.	Gonorrhœa.	Cure.	

Laparotomies for Removal of Pyo-Salpinx.—Continued.

Number.	Date of operation.	Age.	Married or single.	Number of children.	Number of abortions.	Both appendages or right or left removed.	Time of illness.	Adhesions.	Drainage.	Immediate result of operation: recovery or death.	Probable exciting cause of suppuration.	Ultimate result of operation on the condition of the patient.	Remarks.
	1887.												
27	Oct. 13.	28	M.	1	1	B.	.....	Yes.	No.	R.	Traumatic.	Cure.	Patient had a few days previous been curetted, and received intra-uterine treatment; since then had high temperature and chills; both tubes were greatly distended.
28	Oct. 29.	29	M.	....	....	B.	4 yrs.	No.	No.	R.	?	Cure.	The contents of tubes were muco-purulent and the muscularis much thickened.
29	Dec. 18.	28	M.	2	6	B.	3 mos.	Yes.	No.	R.	Puerperal.	Cure.	Illness dates from last abortion.
30	Dec. 21.	25	M.	3	....	B.	1 yr.	Yes.	No.	R.	Gonorrhœa.	Cure.	
31	Dec. 29.	29	M.	....	....	B.	8 yrs.	Yes.	No.	R.	Gonorrhœa.	Improved.	When seen in December, 1888, patient stated that she is improving from month to month.
32	Dec. 30.	19	M.	....	....	B.	8 mos.	Yes.	No.	R.	Gonorrhœa.	Cure.	The pains from which this patient suffered were unusually severe, probably due to the acuteness of the gonorrhœal infection; the husband having a very severe form of the disease.
	1888.												
33	Jan. 20.	39	M.	....	...	B.	11 yrs.	Yes.	No.	D.	Gonorrhœa.	.....	Patient took ether very badly; the tubes, unusually distended, ruptured during extirpation. Operation was hurried for the first reason. An oversight was also made by a faulty message to me, regarding the condition of patient, stating that the patient was doing well. However, the main error was in not putting a drainage-tube in from the begioning, as it was evident that the abdomen was not sufficiently washed out from the amount of pus which escaped into it. An ovarian hæmatoma was present.
34	Jan. 24.	36	M.	6	2	L.	6 yrs.	Yes.	No.	R.	Puerperal.	Improved.	
35	Jan. 27.	29	M.	1	....	B.	2 yrs.	Yes.	No.	R.	Puerperal.	Cure.	
36	Feb. 11.	24	M.	5	....	B.	3 yrs.	Yes.	No.	D.	Puerperal.	....	Complicated with a suppurating intraligamentous cyst, it and the tubes ruptured during enucleation, the pus escaping into the abdomen. She did not rally from the operation. Had lost very much in flesh and strength the last three months prior to operation.
37	Feb. 17.	30	M.	3	2	B.	3¼ yrs.	Yes.	No.	R.	Puerperal.	Cure.	
38	March 11	32	M.	4	....	R.	5 yrs.	Yes.	No.	R.	Puerperal.	Improved.	
39	March 29.	25	M.	1	....	B.	4 yrs.	Yes.	No.	R.	Gonorrhœa.	Cure.	
40	April 10.	33	M.	1	....	B.	7 yrs.	Yes.	No.	R.	Puerperal?	Cure.	
41	April 23.	20	S.	1	...	L.	1 yr.	Yes.	No.	R.	?	Cure.	
42	May 3.	32	M.	1	1	B.	5 yrs.	Yes.	No.	R.	Puerperal.	Cure.	
43	June 10.	35	M.	....	2	L.	2½ yrs.	Yes.	No.	R.	Gonorrhœa.	Not heard from.	
44	June 14.	28	W.	2	....	B.	3 mos.	Yes.	No.	D.	Gonorrhœa.	.....	Died second day. Septicæmia. Each tube contained at least 120 grammes pus, both ruptured during enucleation; the walls were *very* thin. Suspicion also of recent abortion.
45	June 19.	28	M.	....	....	R.	8 yrs.	Yes.	No.	R.	Gonorrhœa.	No improvement on *left* side.	Right side better.
46	June 28.	35	M.	4	1	B.	18 mos.	Yes.	No.	R.	Puerperal.	Cure.	
47	Nov. 30.	31	M.	1	....	B.	6 yrs.	Yes.	No.	R.	Gonorrhœa.	Cure.	Seen March 25, 1890. Patient is perfectly well since six months.
48	Dec. 17.	22	W.	1	1	B.	1 yr.	Yes.	No.	R.	Gonorrhœa.	Improved.	
	1889.												
49	Jan. 8.	17	M.	....	....	B.	18 mos.	Yes.	No.	R.	Gonorrhœa.	Improved.	Had been cohabiting since her fourteenth year, with numerous persons.
50	Jan. 22.	36	M.	2	1	B.	8 mos.	Yes.	No.	R.	Gonorrhœa.	Improved.	
51	Jan. 24.	26	M.	1	....	B.	5 yrs.	Yes.	No.	R.	Puerperal.	Improved.	Both tubes ruptured while separating the adhesions. Abscess of left ovary.
52	Feb. 11.	33	M.	5	....	B.	2 weeks.	Yes.	Yes.	R.	Puerperal.	Cured.	Acute salpingitis two weeks since delivery by midwife. Patient's temperature 103.4° to 105° F.; pulse, 130 to 140. Tubes contained about 180 grammes of pus; ruptured during enucleation. Drainage-tube removed on the sixth day. Patient had but little pain on examination—*none* otherwise
53	March 1.	c. 30	M.	...	....	L.	6 mos.	Yes.	No.	R.	?	Not heard from.	
54	March 20.	30	M.	6	....	L.	6 yrs.	Yes.	No.	R.	Puerperal.	Cured of her pains.	Has ventral hernia.
55	April 4.	26	M.	2	....	L.	6 yrs.	Yes.	No.	R.	Puerperal.	Improved.	Left tube greatly distended. Abscess of ovary as large as a fist. Adhesions very firm. The tube and ovarian abscess ruptured during enucleation.
56	May 16.	32	M.	2	1	B.	2 mos.	Yes.	No.	R.	Puerperal.	Cured.	Tubes contained about 200 grammes of thick greenish pus. Both ruptured during removal.
57	June 9.	38	M.	4	....	B.	14 yrs.	Yes.	No.	D.	Gonorrhœa.	....	The adhesions with sigmoid flexure were dense, and the gut surrounded with exudate, which accounted for the excessive constipation from which patient suffered. Its walls were in consequence very friable; the gut tore through while endeavoring to separate the adhesions. A portion was resected and the two ends brought together, first with interrupted sutures and then continuous suture of silk. Death from shock. Patient had regularly recurrent attacks of pelveo-peritonitis, and several attacks of general peritonitis.
58	June 18.	27	M.	3	1	B.	5 mos.	Yes.	Yes.	R.	Gonorrhœa.	Patient felt quite well when she left the hospital two months subsequent to operation. Has not been heard from since.	Complicated with an intra-ligamentous cyst. Hemorrhage from the torn adhesions so excessive that an intra-abdominal gauze packing was necessary. Drainage-tube left in four days. A severe *parotitis* developed after operation.
59	Aug. 23.	20	M.	....	...	L.	1 yr.	Yes.	No.	R.	Gonorrhœa.	Cure.	Patient has since the operation been free from pain so and is identical patient. Right pyo-salpinx was first removed on account of the intense pain from which the patient constantly suffered during the last three months. Previously she could bear the pain. The left tube seemed in good condition, it was consequently left; for the first few days the patient felt very well, but then began to complain of the opposite side—finally so much so that she was in constant agony; the adhesions changed perceptibly from one examination to the other (*i.e.*, twice per week), so that a second laparotomy became a matter of necessity. The tube was considerably distended with pus. Perfectly well when heard from four weeks ago
60	Sept. 11.	29	S.	....	....	R.	1 yr.	Yes.	No.	R.	?	.....	
61	Oct. 10.	29	S.	....	....	L.	.. ..	Yes.	No.	R.	?	)	
	1890.												
62	Jan. 15.	49	S.	....	....	B.	10 yrs.	Yes.	No.	R.	Gonorrhœa.		Relieved of old pain to some extent.
63	Jan. 17.	17½	S.	....	...	L.	1 yr.	Yes.	No.	R.	Gonorrhœa.	"	Felt perfectly well when she left hospital; not the slightest sign of former pain.
64	Jan. 28.	34	M.	2	....	B.	3 yrs.	Yes.	No.	R.	Gonorrhœa.		Feels much better than formerly.
65	Feb. 2.	29	M.	5	...	R.	7 yrs.	Yes.	No.	R.	Puerperal.	"	Feels much better than formerly.
66	Feb. 13.	32	M.	....	....	B.	12 yrs.	Yes.	No.	R.	Gonorrhœa.	"	Feels a little better than formerly.
67	Feb. 18.	43	M.	3	1	B.	2 yrs.	Yes.	No.	R.	?	"	Feels much better than formerly.
68	March 1.	39	M.	13	5	B.	20 days.	Yes.	No.	R.	Puerperal.	....	Felt perfectly well when she left hospital. Both tubes very much adherent to intestines; both ruptured during enucleation, and pus escaped in abdomen. Washed out and closed.

Laparotomies for Catarrhal Salpingitis.

Number.	Date of operation.	Age.	Married or single.	Number of children.	Number of abortions.	Duration of illness.	One or both adnexa removed. Right or left.	Adhesions.	Drainage.	Immediate result of operation. Recovery or death.	Ultimate result of operation on the condition for which it was done.	Remarks.
	1884.											
1	Nov. 16.	36	M.	....	....	6 yrs.	B.	Yes.	Yes.	D.	....	Died on sixth day of peritonitis.
2	Nov. 30.	29	S.	1	....	4 yrs.	B.	Yes.	No.	R.	No improvement.	The cause of the non-improvement is perhaps due to the patient having become a morphine habitué, owing to the constant suffering which she endured.
	1885.											
3	Mar. 6.	30	M.	2	....	6 yrs.	L.	Yes.	No.	R.	Cure.	
4	April 24.	30	M.	3	2	7 mos.	L.	Yes.	No.	R.	Cure.	Ovary three times its normal size—abscess in centre. The pain in the left ovarian region was constant, no matter what treatment was used (due to the abscess).
5	Oct. 21.	32	M.	5	4	5 yrs.	L.	Yes.	No.	R.	Cure.	
6	Nov. 29.	28	S.	1	....	7 yrs.	R.	No.	No.	R.	None.	From the birth of child, seven years previously, she had constant pain in the right ovarian region, and suffered from epileptic seizures. The tube was much thickened and very sensitive; on several occasions during bimanual examination of the appendage, catalepsy was produced, and on two other occasions a true epileptic fit. For a short time after the operation she was free from the attacks, but they gradually returned, and are now more frequent and severer than formerly.
	1886.											
7	Feb. 12.	28	M.	3	....	6 mos.	R.	Yes.	No.	R.	Cure.	The same physical and psychical condition as in Case 6; only that the tube and ovary were bound down by perimetritic adhesions. No medication was used after operation. Reported last in December, 1888. Has not had a single epileptic seizure since operation, and the former excessive ovarian pain gradually diminished, and in between six and eight months after operation it had disappeared entirely.
8	June 28.	28	M.	2	....	7 yrs.	R.	Yes.	No.	R.	Improved.	When twenty-one years old she was infected by husband with gooorrhœa. The contents of tube were sero-purulent, the condition undergoing change to pyo-salpinx. The left tube seemed normal.
9	Sept. 13.	23	M.	1	....	2 yrs.	L.	Yes	No.	R.	Cure.	An ovarian hæmatoma also existed.
10	Dec. 29.	20	S.	....	....	3 yrs.	L.	No.	No.	R.	Cure.	Macroscopical appearances of the tube and ovary did not explain the cause of the intense suffering, though both were enlarged and ovary cystic; entirely free from adhesions. The specimen was unfortunately lost, so that a microscopical examinatoo could not be made.
	1887.											
11	Jan. 23.	35	M.	...	....	5 yrs.	L.	Yes.	No.	R.	Cure.	Ovary cirrhotic.
12	May 7.	30	M.	2	...	8 yrs.	L.	No.	No.	R.	Improved.	Small abscess in ovary, otherwise cystic degeneration. When last seen by me, about one year after operation, she was much improved. Report from family physician, however, received two weeks ago, states that she is entirely well now.
13	May 19.	27	M.	1	....	10 yrs.	B.	Yes.	No.	R.	Cure.	
14	June 11.	29	M.	....	....	4 yrs.	B.	Yes.	No.	R.	Improved.	
15	July 8.	26	M.	2	1	4 mos.	R.	Yes.	No.	R.	Cure.	Right ovarian abscess, size of a walnut.
16	July 12.	51	M.	3	....	2 yrs.	R.	No.	No.	R.	Cure.	A smooth mass, the size of a hen's egg, tender to touch, was felt to the right of the uterus; the much thickened tube could be felt going off from the uterus toward this mass, it was also very sensitive. The small tumor proved sarcoma of the ovary.
17	Aug. 22.	19	M.	....	1	6 mos.	R.	Yes.	No.	R.	Cure.	
18	Sept. 9.	27	M.	....	....	7 yrs.	B.	Yes.	No.	R.	Cure.	
19	Oct. 20.	31	M.	....	....	9 yrs.	L.	No.	No.	R.	Cure.	Patieot had been losing ouch blood at irregular intervals. The right adnexa had been removed by another operator. Tube-wall much hypertrophied. Sarcoma of the corresponding ovary size of a fowl's egg.
	1888.											
20	Feb. 10.	27	M.	....	....	2 yrs.	L.	Yes.	No.	R.	Improved.	
21	Feb. 13.	36	M.	1	1	16 yrs.	L.	Yes.	No.	R.	Cure.	Sigmoid flexure was torn half-way across in separating the adhesions. Lembert suture. Adhesions very extensive and firm.
22	May 19.	41	M.	4	3	3 yrs.	L.	Yes.	No.	R.	Cure.	
23	June 12.	39	M.	4	....	17 yrs.	B.	Yes.	No.	R.	Improved.	
	1889.											
24	Feb. 16.	32	M.	1	....	13 yrs.	B.	Yes.	No.	R.	Cure.	Patient during the last seven years of her illness was never without pain; half of the time she was unable to do anything on account of recurring attacks of pelveo-peritonitis. Excessive metrorrhagia. She has since operation been entirely free from pain, and says that she has not felt so well for fourteen years as now.

Laparotomies for Tubercular Salpingitis.

Number.	Date of operation.	Age.	Married or single.	Number of children.	Number of abortions.	Duration of illness.	One or both adnexa removed. Right or left.	Adhesions.	Drainage.	Immediate result of operation. Recovery or death.	Ultimate result of operation on the condition for which it was done.	Remarks.
	1888.											
1	Feb. 11.	38	M.	.....	.....	.....	R.	Yes.	No.	R.	Cure of pain and bleeding.	Symptoms were constant pain on the right side, and profuse hemorrhage. Congenital absence of the left appendage. Am ioformed that patient has since died of pulmonary tuberculosis. (Both tube and ovary were tubercular.)
	1890.											
2	Feb. 7.	23	M.	....	.....	7 mos.	B.	Yes.	No.	R.	Under observation. Cure of the former pains.	Patient felt well until seven months ago, when pains began in the left ovarian region, which gradually increased in severity and spread over the entire abdomen, at the same time profuse metrorrhagia was present. This was benefited by local treatment in another hospital the pains, however, continued. On admission into the hospital, the general condition of the patient was poor; anæmic, had lost flesh; elevation of temperature, 99.8° F. in axilla; diarrhœa. The uterus firmly fixed by a large mass on the left side, with irregular boundaries, quite firm to touch, pushing the uterus upward and forward; a similar mass on the right side, but not so large. The masses felt proved to be the tubes and ovaries, studded with tubercles and surrounded by an exudation material, which was encapsulated. The uterus was separated from the rest of the upper part of the abdominal cavity by a thick membrane, which formed a roof, this and the adherent intestines were thickly studded with tubercles; there was very little ascitic fluid present. The peritonitis was undoubtedly secondary, the tubercular salpingitis the primary affection.

Laparotomies for the Removal of the Uterine Appendages, not the Seat of Markea Disease.

Number.	Date of operation.	Age.	Married or single.	Number of children.	Number of abortions.	Duration of illness.	Condition for which the operation was done.	One or both appendages removed.	Adhesions.	Drainage.	Immediate result of operation, Recovery or death.	Ultimate effect of operation on the condition for which it was done.	Remarks.
	1885.												
1	Jan. 3.	24	M.	....	2	2 yrs.	Large interstitial fibroid.	B.	Yes.	No.	R.	Cure.	Was seen two years subsequent to operation, when the tumor had decreased fully three-fourths of its original size. Hemorrhage, which was before operation very profuse, had ceased entirely.
	March 7.	24	M.	....	..	9 yrs.	Hystero-epilepsy.	B.	No.	No.	R.	Improved.	The disease began soon after the appearance of menstruation; attacks frequent and very severe about the menstrual period. In the beginning no change was noticed from the operation. Information received from an acquaintance, December 5, 1888, states that the attacks lately became diminished in frequency and severity; the improvement being more marked from month to month.
3	1886. March 17.	48	M.	3	....	5 yrs.	Large fibroid, causing pain and hemorrhage.	B.	Yes.	No.	R.	Hemorrhage and pain ceased.	
4	1887. Aug. 26.	30	M.	....	....	....	Interstitial fibroid, causing pain and hemorrhage.	B.	Yes.	No.	R.	Bleeding and pain ceased.	
5	Sept 2.	35	M.	3	...	1 yr.	Interstitial fibroid causing pain and hemorrhage.	B.	Yes.	No.	R.	Cure. (?)	Bleeding and pain had ceased when patient left hospital. Have been unable to trace her since.
6	1888. May 14.	17	S.	....	....	4 yrs.	Hystero-epilepsy from time menses began.	B.	No.	No.	R.	None.	Both tubes and ovaries were prolapsed. Epileptic and cataleptic seizures were most severe and frequent about the menstrual period, and seemed to take their origin from the appendages. Numerous times, in the clinic and hospital, an attack was brought on by pressing either one of the ovaries during bimanual examination. For six months subsequent to operation she was entirely well, so that a permanent cure was thought of, but then the attacks gradually returned again, and are now, from last report, as severe as ever.
7	June 14.	38	M.	..	....	Several years.	Hystero-epilepsy.	B.	Yes.	No.	R.	None.	
8	June 28.	29	S.	....	....	6 yrs.	Interstitial fibroid.	B.	Yes.	No.	R.	Hemorrhage and pain stopped.	
9	July 10.	26	M.	....	....	1 yr.	Constant hemorrhage.	B.	No.	No.	R.	Cure.	Patient had undergone every imaginable form of treatment, in my care and at the hands of other physicians, without benefit; finally her physician sent her back to me for operation. She had wasted to a mere skeleton from a former moderately corpulent woman.

Laparotomies for Hydro- and Hæmato-Salpinx.

Number.	Date of operation.	Age.	Married or single.	Number of children.	Number of abortions.	Time of illness.	One or both adnexa removed.	Hydro- or Hæmato-Salpinx.	Adhesions.	Drainage.	Immediate result of operation, Recovery or death.	Ultimate result of the operation on the condition of the patient.	Remarks.
	1885.												
1	Jan. 17.	28	M.	...	....	5 yrs.	B.	Hydro-salpinx.	Yes.	No.	R.	Cure.	
2	Jan. 29.	43	M.	10	....	3 mos.	R.	Hæmato-salpinx.	Yes.	Yes.	R.	Cure.	Had retro-uterine hæmatocele and beginning peritonitis; it was on account of the latter that the operation was done without delay. Drainage-tube removed on the ninth day.
	1886.												
3	Nov. 30.	27	M.	....	....	6 yrs.	R.	Hydro-salpinx.	Yes.	Yes.	R.	Not improved.	
4	Dec. 30.	24	M.	....	1	4 yrs.	R.	Hydro-salpinx.	Yes.	No.	R.	Cure.	Had a severe attack of general peritonitis subsequent to operation, due probably to eventration of intestines, which became necessary to find the source of a profuse hemorrhage occurring during operation.
	1887.												
5	Jan. 23.	30	M	...	...	6 yrs.	L.	Hydro-salpinx.	Yes.	No.	R.	Cure.	
6	July 14.	28	M	2	....	1 yr.	B.	Double hydro-salpinx.	Yes.	No.	R.	Not improved.	A portion of the right ovary was not removed, owing to very dense adhesions; from this remnant subsequently an ovarian cyst arose, which necessitated another laparotomy.
7	Nov 8.	29	M.	1	1	2 yrs.	L.	Hydro-salpinx.	No.	No.	R.	Cure.	
	1888.												
8	March 6.	21	S.	....	....	?	B.	Hydro-salpinx.	Yes.	No.	R.	Not improved.	
9	May 6.	28	M.	1	1	4 yrs.	R.	Hydro-salpinx.	Yes.	No.	R.	Cure.	

Three cases of removal of the appendages for other conditions, viz., two tubal pregnancy, and one ovarian hæmatoma which had ruptured and produced peritonitis from the blood effused in the abdomen, are not enumerated in this table. These cases also recovered.

Special attention is called to cases Nos. 10, 11, 18, 25, 27, 52, 56, 57, 58, and 68 of operations for pyo-salpinx, and Nos. 6, 7, 16, 19, and 21, for catarrhal salpingitis. Also to the cases where the appendages were removed for fibro-myomata. Case 60 is first noted as "no effect;" the same case 61 is marked "cured" after removal of the other tube; as per last report from the patient.

If no symptoms occur within two or three months after an abortion or confinement, and no history of infection can be elicited or gonococci found in the vaginal secretions, the case is classed as "cause unknown."

To make a short résumé of the principal part of the table, we have the following:

Not improved by the operation	10	patients.
Improved by the operation	24	"
Cured by the operation	58	"
Not heard from, or insufficient elapse of time since operation	11	"
Died from the result of operation	8	"
Case 60 and 61 enumerated under one head	1	"
Total	112	"

Pyo-salpinx.

Class A. Both adnexa removed for gonorrhœal pyo-salpinx ..... 16 times.
Class B. Right adnexa removed for gonorrhœal pyo-salpinx..... 2 "
Class C. Left adnexa removed for gonorrhœal pyo-salpinx..... 2 "

Division 1. 3 cases had symptoms less than one year.
" 2. 7 " " " one to three years.
" 3. 1 " " " from three to five years.
" 4. 5 " " " more than five years.

In Division 1, there was 1 positive cure; 1 not heard from, but felt well when last seen; 1 perfectly relieved of former symptoms, yet the time since operation is too short to give a definite report. In Division 2, there were 4 cases positive and complete cure, 3 cases improvement. In Division 3, there was 1 case complete cure. In Division 4, there were 2 cases complete cure. 3 cases improvement.

Class B. 1. One patient had symptoms between three and five years.
2. " " " " more than five years.
1st. Improved. 2d. No effect was produced.
Class C. Two patients had symptoms between one and three years. One cure. One improvement when last seen.

From patients in whom the pyo-salpinx seemed to arise in connection with a confinement or an abortion:

Class A. Both adnexa ..... 19 times.
" B. Right adnexa only ..... 2 "
" C. Left adnexa only..... 7 "

In Class A: In 9 cases the disease dated less than one year; these were all cured. In 2 cases the disease dated between one and three years; both cured. In 4 cases the disease dated between three and five years; among them we note two complete cures, and two improvements. In 3 cases the disease lasted more than five years; two cures, and one improvement.

In Class B: There was 1 case between three and five years, and 1 case more than five years; both improved.

In Class C: Three times less than one year: 1 no effect, one cure, and one not heard from. Once between one and three years; cure. Once between three and five years; improvement. Twice more than five years; one improvement. one cure.

The double pyo-salpinx was due, once to syphilis; one complete cure; its duration was less than one year. A right pyo-salpinx, due to syphilis. Between one and three years' duration, once, with no improvement. One left syphilitic pyo-salpinx; improvement.

Of no definite origin we note: Double pyo-salpinx, three times. Duration between one and three years, once; improvement. Duration between three and five years, once; cure. Duration more than five years, once; cure.

Right side, twice. Once, less than one year; no improvement. Once, between one and three years; no improvement.

The left tube is noted three times. Once, less than one year duration; cure. Twice, between one and three years; both cured.

On fibro-myomata, provided the neoplasm is interstitial and has not undergone any degenerative changes, or is not tightly impacted in the pelvis, the operation has invariably a good result; it is different, however, in cases of severe affections of the nervous system, as can already be seen by the few cases tabulated by me.

I believe, also, that the majority of those cases of catarrhal salpingitis which are so exceedingly obstinate, and in which the symptoms will but temporarily improve, can be traced to specific infection.

It may not be amiss here to make a note as to the frequency of gynecological patients suffering with some form of salpingitis. For this research I am indebted to my assistant, Dr. C. J. Musgrave, who kindly reviewed my history books for this purpose. Five thousand cases were taken without selection:

Ages.	Both.	Right.	Left.	Total number in each division.
Under 20.....	12	—	4	16
20 to 25.....	117	22	17	156
26 " 30.....	183	22	20	225
31 " 35.....	26	9	8	43
36 " 40.....	17	5	8	30
41 " 45.....	—	1	3	4
46 " 50.....	1	1	—	2
Over 50.....	—	1	—	1
Total.....	356	61	60	477

In one hundred cases seen only in consultation, the percentage is much greater:

Left appendage:

Under 20 years..... 1 case.
Between 20 and 25 years..... 1 "
" 26 " 30 " ..... 2 cases.
" 31 " 35 " ..... 6 "
Total..... 10 "

Right appendage:

Between 31 and 35 years ..... 6 cases.

Both adnexa:

Between 20 and 25 years..... 7 cases.
" 26 " 30 " ..... 6 "
" 31 " 35 " ..... 3 "
" 36 " 40 " ..... 1 "
" 41 " 45 " ..... 1 "
Total..... 18 "

Making a total of 34 patients, out of 100 patients seen by me with regard to diagnosis, who were affected with inflammation of the uterine adnexa.

We also notice in our observations that the salpingitis was never primary. A. Martin, from an analysis of 287 cases of tubal disease, has made a similar observation.[1]

Do not for a moment think that I want to see the various other remedies used in diseases of the uterine appendages supplanted by the knife; nay, on the contrary, I uphold conservatism, and am a strong advocate for the use of massage, electricity, etc.; but I cannot stand by and allow this or that one to put on claims for a certain mode of treatment and decry the surgeon's knife, irrespective of the etiological factor and the pathological state of the disease. My conscience, and the duty we owe to the public at large, will not allow me to become one-sided and unscientific, nor permit enthusiastic reports to go among the members of our profession, without giving a word of caution when my experience and judgment dictate it. We are physicians, not charlatans who cure cancer with salves, and consumption by faith; and as physicians let us be broad and eclectic in our treatment of disease.

THE TRUE RELATION OF DISEASED CONDITIONS IN THE UPPER AIR-PASSAGES TO THE SO-CALLED NASAL REFLEXES.[2]

By F. H. BOSWORTH, M.D.,
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WHILE glancing through some old medical books a few evenings since, I came upon the following passage from the writings of that "learned and renowned doctor," Lazarus Riverius:[3]

> "That Rheum is called Catarrhus which doth fall
> Upon the Breast, upon the Jaws we call
> It Branchus, Coryza through the Nose doth fall."

"When the humor flows upon the Breast, the disease keeps the general name of a Catarrh or Defluxion; when it falls upon the Jaws, and Aspera Arteria or rough Arteries, it is called Branchus, Raucedo, or Hoarseness; when it flows into the Nostrils it causeth not only a Coryza or Murrh, but Ozæna or Polypus. But in other parts it pro-

[1] Zeitschrift für Geburtsheilkunde und Gynäkologie, vol. xiii., p. 300.
[2] Read before the New York Academy of Medicine, May 1, 1890.
[3] Culpeper's translation, London, 1678, p. 52.

duceth various effects; if it fall upon the Nerves, it produceth a Torpor or Numbness, a Palsie, Convulsion, Trembling; if in the Ears, Deafness, Swelling; if in the Eyes, Ophthalmy or Inflammation, Tears, Blindness; if upon the Uvula or Palate, Swelling, Looseness, or Laxity, or Ulcer; if in the Throat, the Quinzy; if on the Lungs, the Pleurisie, Inflammation, or Imposthumation, Cough, Shortness of Breath, Spitting of bloud, Consumption; if into the Stomach, Vomiting, Want of appetite; if into the Bowels, it causeth Diarrhœa and Dysentery; therefore it is rightly conceived that the greatest part of diseases that trouble Man's body have their original from the Head."

This is the result of the studies of a very keen observer, who practised general medicine, be it remembered, and was not a specialist, some two hundred and fifty years ago; and I bring forward this quotation to-night, as possessing a somewhat curious interest, and as showing that the idea that all diseases come from the nasal passages, or the head, as Riverius terms it, is by no means a new one. I am not, however, disposed to go quite so far as our ancient friend, for I am not one of those who believe that the nose is absolutely the direct cause of the large number of diseases which are now recorded in the category of nasal reflexes. Furthermore, I think it still an open question whether these diseases, when met with in connection with intranasal disorders, should properly be classed as reflexes. This term is an exceedingly vague and indefinite one, which we use oftentimes to explain certain symptomatic manifestations, when the real connection between the primary disease and the irregular or unusual manifestation is obscure and hidden. Certainly many of the affections which we are accustomed to term as reflex, I think, properly must be regarded as directly symptomatic.

Thus, for instance, we not infrequently hear cough spoken of as a reflex disturbance due to disease of the nose or naso-pharynx. A cough, in these cases, is purely a symptom of a secondary complication of a catarrhal nature in the larynx or trachea, due directly to the disease in the parts above. Frontal headache is oftentimes spoken of as a reflex disturbance due to intranasal disease. In certainly many instances a frontal headache can be better explained by regarding it as due to the fact that the turgescent condition of the blood-vessels of the nasal cavity exercises a certain amount of pressure on the terminal filaments of the first branch of the fifth pair of nerves. Epiphora is often spoken of as due to reflex disturbance from intranasal disease. This is unquestionably to be explained by the fact that the catarrhal inflammation of the nasal mucous membrane extends into the lachrymal sac, producing occlusion. A still further extension of the inflammation may result in involving the conjunctiva in an inflammatory process, which is in no way to be regarded as a reflex result.

I bring forward these points, simply to illustrate what I regard as, to a certain extent, a misuse of the term "reflex."

The main interest in the discussion to-night, as far as I am asked to take part in it, concerns, I believe, the question of hay-fever and asthma. I have already written at considerable length on this subject, and therefore shall be somewhat brief in what I have to say to-night, for fear of repeating what has been already said.

I do not believe that intranasal disease is the cause of every case of asthma, or of every case of hay-fever. As far as I remember, I have never made any direct statement to this effect, although the tone of the discussion at the last meeting of the Society (in which I was quoted and referred to) seemed to point in that direction. My position in this matter is based on a pretty large observation of both hay-asthma and perennial asthma, as it has manifested itself in the somewhat large number of patients which have been under my personal care, and is the direct teaching of the clinical histories of these cases, and especially of the results of treatment. My position, briefly stated, is as follows:

1st. The special morbid lesion which gives rise to a paroxysm of perennial asthma is a dilatation of the blood-vessels which circulate in the mucous membrane lining the bronchial tubes, the result of a vaso-motor paresis. This vaso-motor paresis differs from inflammation in that, while constituting apparently its first stage, it shows no tendency to go further. Muscular spasm, therefore, according to the old teaching, plays no part whatever in producing an asthmatic attack.

2d. There are two predisposing causes of asthma. First, that condition of the general system which we call neurosis, under the influence of which an individual becomes liable to vaso-motor disturbances in one portion of the body or another. This I regard is as good a definition, from a pathological point of view, as we can give of what we call neurosis. I can only say that, as far as clinical observation teaches us, the one pathological lesion which characterizes the direct manifestation of a neurosis is a vaso-motor paresis in one portion of the body or another. In asthmatics this vaso-motor paresis involves the blood-vessels which circulate in the mucous membrane of the bronchial tubes. The second predisposing cause of asthma is a chronic inflammatory process involving some portion of the upper air-tract. In all chronic inflammation the prominent feature is vascular dilatation. The whole mucous membrane of the upper air-tract is very closely and intimately related, one part being in quick and close sympathy with another. A hyperæmia of the blood-vessels of the nose shows a marked tendency to be followed by a similar condition of the mucous membrane of the bronchial tubes. This, I think, is necessarily a corollary of what we now recognize as the great respiratory function of the nasal passages, by which the temperature and moisture of the inspired air is nicely regulated and adjusted before its entrance into the bronchial tubes.

If I have made clear these two propositions of what a neurosis is, and of how closely related the two portions of the respiratory tract are to one another, I think the dependence of an asthma on a nasal condition can be clearly understood.

Asthma, as I said before, is not in all cases caused by an intranasal condition, but an intranasal morbid condition plays an exceedingly important part in its development. Given an individual with hypertrophic rhinitis, or any other obstructive lesion in the nasal cavity, who, at the same time, is of a well-marked neurotic habit, and I think you have a subject who presents exceedingly favorable conditions for the development of an asthma; especially if the nasal condition in this individual has existed for a sufficient length of time as to have developed a mild tracheal or bronchial catarrh. On the other hand, take an individual of a mild neurotic habit, with healthy air-passages; or, again, an individual of a notably phlegmatic temperament, with a very advanced condition of chronic inflammation in his nasal passages, and the development of an asthma would be a most curious phenomenon, according to my views and observation.

I hold firmly, therefore, to the opinion that in a diseased condition of the nasal cavities, of a chronic inflammatory character, or of an obstructive character, we have a powerful predisposing cause of asthma. I go no further than this, and, as far as I remember, I never have made a statement which could be interpreted as meaning more than this. Dr. Robinson, I think, in the discussion at the last meeting, does me something of an injustice when he quotes me as saying that I have "never known a case of asthma to occur in other than an obstructive lesion of the nose or upper air-passages." In my original paper, "Asthma, with an Analysis of Eighty Cases,"[1] I made the assertion that "a large majority, if not all, cases of asthma were dependent upon some obstructive lesion in the nasal cavity." In a later publication I made the assertion that the lesion in the nasal cavity was always of an obstructive character. The way in which Dr. Robinson quotes me,

[1] American Journal of the Medical Sciences, September, 1888.

I think, is a trifle misleading, as one would infer that I made the somewhat extravagant claim that no case of asthma could occur without an obstructive lesion in the nose. I simply say that I believe a large majority of cases are dependent upon an intranasal lesion, and when such lesion exists it is obstructive. I have never seen a case of asthma in atrophic rhinitis, and should consider it a most curious phenomenon if such were to present itself.

When I say that asthma is dependent on nasal disorders I do not say that all cases are caused by it. I assert merely that there is a close relation, and this is evidenced by the report that I previously made, in a manner that cannot be questioned. Of the eighty cases reported the treatment was largely intranasal. Of these cases forty-six were cured, twenty-six were improved. Now, I possibly may have been carried away by a certain degree of enthusiasm in reporting these cases. I take it, few of us, in endeavoring to establish a somewhat novel premise, are capable of making our reports without a certain degree of bias. In my eighty cases I endeavored certainly to make my reports with fairness and candor, and the results were obtained by a somewhat extensive correspondence with the patients who had passed out of my observation, and none were reported, as far as I know, who had not responded to my letters or had been personally seen. Now, if in eighty cases forty-six can be cured and twenty-six improved by the local treatment of the nose, there can be no question that we have established the fact, to my mind beyond controverting, that a very large majority of cases, if not all, are dependent upon an intranasal lesion; and by this dependence I do not mean caused by, but that the two affections are so closely related that the asthma can be very materially affected and controlled by medication to the nose. This fact certainly has been established by numberless observations. If a paroxysm of asthma can be arrested by an application of cocaine in the nose, as I have seen it over and over again, the relationship between the nose and the bronchial tubes is clearly established and without question. If this can be done in a large number of cases, this relationship is demonstrated to be still more intimate. If the permanent control of a chronic inflammation of the nasal mucous membrane cures asthma, we have not only shown this relationship in a very clear manner, but we have presented to the profession a method of treating asthma which is not only definite and certain in its action, but most satisfactory, in that the treatment is directly under our eye, and what we accomplish can be seen and observed. In other words, in place of a somewhat obscure pathological condition, there are presented certain physical manifestations which are under ocular inspection, and the treatment of which also is under ocular inspection, and our success is carefully estimated by the physical improvement in local conditions which we observe from day to day.

As regards hay-fever; this I consider as practically one and the same disease with asthma, and to be treated in the same way. On this point I have already written so much at length that I do not feel at liberty to repeat it here.

One word as regards certain nervous diseases which have been classed among the nasal reflexes. I refer especially to chorea and epilepsy. I have seen nothing in my own practice which warranted me in the belief that epilepsy should be regarded as a nasal reflex, although I do believe that an intranasal condition is capable of proving a marked source of irritation in many of the nervous affections, and that an epilepsy may be aggravated by an intranasal morbid lesion, the removal of which may to a certain extent modify the appearance of the convulsions. That an epilepsy has ever been cured by intranasal treatment, I think, is open to very serious question. The only instance of this kind I recall is that of Roe, read at the last meeting of the State Medical Society. I am disposed, however, to think that it is too early to definitely estimate the results in this case.

Of chorea, I have seen a number of instances. Only three, however, have been sufficiently long under my care to warrant my giving a definite opinion concerning them. One of these was a young lady from Havana, aged twenty, with chorea of the larynx, which was characterized by the most distressing bark, perhaps, that I have ever listened to in my office. Dr. Starr saw this case in consultation, and will readily recall it. She was entirely cured by intranasal treatment, and now, at the end of nearly two years, has had no recurrence. Another case was that of a boy, aged seventeen, referred to me by Dr. Janvrin, with hypertrophic rhinitis and deformed septum, in connection with which there was well-marked choreic movements, which disappeared permanently on the relief of the intranasal condition. A third case is a young man, aged sixteen, still under treatment. This was a marked case of chorea, and rather a distressing one. The improvement, however, has been fairly satisfactory, and I am disposed to anticipate an entire relief, if the young man persists in his treatment. Dr. Loomis saw this case a few weeks ago, and, as I understand it, gave an absolutely unfavorable prognosis. I hope yet to convince Dr. Loomis that this unfavorable opinion was premature.

I do not mean to suggest any especial connection here, reflex or otherwise, between chorea and disease of the upper air-passages, for I do not claim any such connection to exist. The improvement in these cases is to be explained by the fact that the removal of morbid conditions in the air-passages of young patients is often followed by marked improvement in the general health. In other words, I consider the successful treatment of catarrhal disorders in the young as one of the very best of tonics. This, I take it, is the prominent indication for treatment in chorea.

Before closing, may I add one word in regard to a criticism which Dr. Robinson makes on my recent volume on "Diseases of the Nose and Naso-pharynx," wherein he says that, on page 525, the statement is made that "the secretion from the nasal passages of the pharynx never makes its way into the laryngeal cavity under any circumstances." Comparing this with the passage on page 550 of the same volume, he claims an inconsistency, in that I make the assertion that "cough is present in certain cases, especially if there is much secretion which has made its way down the pharynx into the larynx, exciting laryngitis."

The quotation from page 525 is from the article on naso-pharyngeal catarrh; while that on page 550 is in the article on adenoid disease of the naso-pharynx. In the former case the disease is one of adult life, in which I do not believe the secretions ever make their way into the larynx; in the latter instance I was discussing a disease of child life, wherein the cough may unquestionably be due to the secretions making their way into the larynx.

I consider myself guiltless of any inconsistency whatever in the statements, and see no reason to change the views there expressed. These points are scarcely germane to the subject under discussion, but since Dr. Robinson has, in rather an elaborate manner, brought them in, I think I am entitled to equal prominence in correcting his somewhat unnecessary charge of inconsistency.

I think the weight of his charge, however, is more than overbalanced by the compliment he pays me, in that the detection of this so-called inconsistency shows conclusively that Dr. Robinson has given my work a most careful reading. I can only trust that this may eventually inure to his great profit.

Nitrite of Amyl is commended as the most rational and successful antidote to use where chloroform or cocaine seems to threaten life by their unfavorable action on the heart. A few drops of nitrite of amyl, administered by inhalation, will be one of the most probable means of restoring the heart's action.—*Journal of the American Medical Association.*

RUMINATION IN MAN.[1]

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By rumination, or "chewing the cud," we designate a condition in which the food returns, without nausea, in small portions, from the stomach through the œsophagus into the mouth, some time after meals; here it is chewed anew and swallowed.

Rumination belongs to the normal physiological processes of most herbivora, and forms the most marked characteristic of the whole class of mammals which we call "ruminants."

Here the rumination is a most appropriate arrangement. The herbivorous animals are obliged to partake of great quantities of food, as the nourishing value of the grasses is relatively a small one. On the pasture they must make use of their time for gathering and swallowing the grass. Afterward, when they have more time and leisure, they reduce the food to smaller particles and mingle the same with saliva, by the act of rumination.

In view of this circumstance the stomach of ruminating animals differs in construction from that of other animal classes. It consists of four compartments: Paunch, or rumen, honeycomb-bag, or bonnet, manyplies, or psalter, and reed, or rennet. The first two serve more or less as reservoirs, whereas the two latter contain the glandular elements for digestion.

At the first act of swallowing, the food materials enter the rumen and the bonnet, whereas after chewing the cud the food passes directly into the psalter and rennet.

Chewing of the cud, which is so very important and appropriate for the whole class of ruminants, occurs, though quite rarely, in man, and is designated then as rumination or merycism.

For man rumination is unnecessary, and more or less a hindrance. One can hardly define rumination as a disease, for the bodily functions are in no way harmed by that process, but as an abnormal, anomalous condition, which must be socially an uncomfortable and disagreeable burden to its owner.

As I have lately had the opportunity to observe two cases of rumination in man, I take the liberty to-night of speaking more fully on this interesting subject.

1. **History of Rumination.**—In ancient times there were confused views on rumination in animals which in fact do not ruminate at all. Thus Aristotle and Plinius[2] speak of ruminant hares and hamsters. The occurrence of rumination in man, however, is not mentioned.

Fabricius ab Aquapendente,[3] in 1618, first observed and described two cases of typical rumination in man. The physicians of that time imagined that the stomach of ruminating men divided itself into as many divisions as that of ruminating animals. But Fabricius ab Aquapendente had the opportunity of making the autopsy after the death of his ruminants, and could state in this way that that conjecture was not correct. Fabricius found the stomach only dilated and thickened, but otherwise not different from any other stomach of man.

At this time there were many mystic ideas about the origin of rumination; it was believed, for instance, that the merycists descended from horned parents. Thus, as the father of his ruminating subject was believed to have had a horn on his forehead, Fabricius[4] remarks: "Ex quo forte datur nobis intelligi parentis semen aliquam habuisse affinitatem cum cornigeris animalibus, neque mirum fuisse genitum filium simile quid a parente contraxisse."

A little while afterward, imitation was supposed to be the main cause of rumination. It was generally assumed that all ruminants had been suckled in their infancy by ruminant animals, and in this way had learned from their feeding mothers the process of rumination.

With Peyer,[1] who, in 1685, had reported twelve cases of rumination in man, begins the scientific discussion of this subject. The same is connected with the doctrine of rumination in general.

2. **Mechanism of Rumination in Animals.**—The act of rumination is composed of: Ejaculation (forwarding the bolus from the stomach through the œsophagus into the mouth), chewing, and swallowing. The main difficulty of the mechanism lies in the explanation of the ejaculation, which act is equally important for rumination as well as for vomiting.

Peyer supposed that the rumen contracts, and in that way causes the food to come up. In man, also, Peyer attributed rumination to abnormal contractions of the stomach. Daubenton[2] attributed the act of preparing and forming the returning bolus for rumination to the bonnet. Flourens[3] made the resection of the bonnet in a sheep, but on the day following the operation the sheep began to ruminate again in the usual manner. Flourens therefore rightly concluded that the bonnet cannot be the causing moment of rumination. Flourens now ascribed this part of forming the bolus to the lower part of the œsophagus, to the "gouttière œsophagienne;" he compares the same with "an open hand, which takes the grasses and contracts, in order to push them thereafter into the œsophagus."

Colin[4] experimentally refuted Flourens's theory; according to Colin, the forming of the boli is not of much consequence. The substances undergoing rumination are pushed by the contractions of the rumen and the bonnet, aided by the work of the diaphragm and of the abdominal muscles, into the infundibulum of the œsophagus. "The œsophagus seems to become relaxed now, dilates, and makes room for the entering food substances; thereafter it closes and exerts an antiperistaltic contraction, by which way the contents come into the mouth."

Lately the following theory for the mechanism of rumination has been advanced by Chauveau and Toussaint.[5] In the moment of ejaculation or rejection, the glottis closes, the diaphragm quickly and vigorously contracts; thereby a considerable rarefaction of the air contained in the thoracic cavity arises, and in the meantime a diminution of pressure. The œsophageal tract is now under negative pressure, and in this way pumps a portion of the bonnet-contents; which portion hereafter is carried into the mouth by an antiperistaltic movement of the œsophagus.

This doctrine of the mechanism has been fully approved by the experiments of Luchsinger,[6] made on morphinized goats, in which the stomach and the glottis have been exposed by operation in such a way that the whole process of rumination could be quickly and plainly observed.

These experiments showed also that any irritation of the rumen (slight pressure, pouring of warm water, tetanizing currents) gave rise to rumination. Thus Luchsinger concludes that rumination is a reflex process. As there is no rumination, according to Flourens, after the nervi vagi have been cut through, Luchsinger deems it probable that the centre of rumination is located in the medulla oblongata, and that transmission passes by way of the vagus.

3. **Anatomy.**—Upon the different ideas of the mechanism of rumination in animals depend the conjectures which have been made upon anatomical anomalies of ruminating men.

Flourens's theory made the idea probable that the lower part of the œsophagus must be dilated. Thus, indeed,

[1] Read before the German Medical Society of New York, May 5, 1890.

[2] Johannessen: Zeitschr. f. klin. Med., Bd. x., p. 274.

[3] Fabricius ab Aquapendente: Tractatus de gula, ventriculo et intestinis. Patav., 1618.

[4] Ewald: Klinik der Verdauungskrankheiten, ii., p. 430.

[1] J. C. Peyer: Merycologia. Basileæ, 1685.

[2] Cit.: Toussaint, Arch. de Physiologie normale et pathologique, 1875, p. 147.

[3] At the same place.

[4] Colin: Arch. de Neurologie, 1883, p. 86.

[5] Chauveau, Toussaint: Arch. de Phys. et Patholog. generale, 1875, p. 151.

[6] B. Luchsinger: Zur Theorie des Wiederkauens. Pflüger's Arch., Bd. xxxiv., p. 295.

Arnold [1] and Luschka [2] have found, in autopsies made on ruminating men, the lower part of the œsophagus dilated in a high degree; at the top of this dilatation there was recognizable a slight constriction. Arnold designated this part as "Vormagen" (ante-stomach), and Luschka as "antrum cardiacum." Both of them ascribed rumination to this anatomical anomaly. Besides, both of them found, in their autopsies of ruminants, the interior branch of the nervus accessorius Willisii to be as thick and well developed as the exterior branch, whereas usually it is only half as thick.

But Poensgen [3] showed that the antrum cardiacum cannot be made responsible for rumination. Among five stomachs of healthy grown people he found the antrum cardiacum present twice. Koerner [4] also found the antrum cardiacum present in eight out of twenty-two normal stomachs.

As regards the thickness of the interior branch of the nervus accessorius Willisii, the same varies very much, according to Cruveilhier, even in non-ruminating people.

In harmony with Toussaint's theory, the belief in a deficient closure of the cardia as a cause of rumination would be perfectly justifiable. Already, in 1859, And. Dumur [5] suggested that mérycisme is a neurosis, effected by a sometimes incomplete paresis of the cardiac portion of the stomach. The movements of the stomach being directed from the pylorus to the cardia, a portion of the stomach-contents enters through the relaxed cardia into the lower part of the œsophagus, and by exciting antiperistaltic movements comes into the mouth.

This conjecture, to consider rumination as a neurosis of the stomach, with relaxation of the cardia, has been more generally accepted within late years. Koerner, Poensgen, Johannessen, Alt, Boas, Ewald, coincide in this view. Several of the authors mention in their ruminating cases the presence of Meltzer's "Durchspritzgeraeusch" (the sound which appears immediately after swallowing water at the processus xyphoides), which should prove the relaxation of the cardia.

Alt's [6] patient swallowed two small gold-fish, and, when ruminating, they returned alive. Alt urged that the cardia must have been deficiently closed, for otherwise the fish could not very well have passed that spot without being compressed and killed.

But even this point—a relaxation of the cardia—does not seem to be always found constant. Boas [7] found in his case of rumination a normal "Durchpressgeraeusch" (the soun which is heard at the processus xyphoides seven seconds after swallowing water), and I, likewise, could observe the same phenomenon in my two cases, which will be reported later.

Some of the authors suggest a too firm closure of the pylorus as an aiding cause of rumination; among them Alt. The food not being able to pass through the closed pylorus would remain longer in the stomach and would cause the same to eject its contents upward, which process is the more easily done in these cases, as the cardia is relaxed.

The fact is, that the stomach has often been found enlarged in merycists, but it is still quite questionable whether we could say here, "post hoc ergo propter hoc." Any other palpable anatomical alteration, as being in connection or the cause of rumination, must at present be excluded.

4. **Etiology.**—Should we not accept an anatomical alteration in the upper digestive tract, in its nervous or central apparatus—which supposition is in no way proven or even made probable, as we have seen above—as the cause of rumination, there remain yet two possibilities for the origin of this anomaly, namely, heredity and self-acquisition. But as heredity was met with only in very few cases of rumination, and thus cannot be taken for the main cause of the affection, it appears of importance to lay most stress on self-acquisition.

The self-acquisition can arise, firstly, from imitation; secondly, from necessity and custom (adaptation).

As the best example of imitation Koerner's [1] case may be cited, where a ruminating governess imparted her own affection to her two pupils; after the governess had been sent away, the two children quickly got rid of their rumination.

In many cases of rumination there is mentioned that the patients first, before the beginning of rumination, had for some time suffered from dyspeptic symptoms with regurgitations; thereafter they commenced to swallow what came up by regurgitation, and, finally, were aware of ruminating. In these cases the development of rumination from slight pathological conditions, by necessity and custom, can be plainly seen.

Most of the reported cases of rumination (in all the literature, to date, but one hundred and six cases of rumination have been described) are of the male sex, and belong chiefly to the professional and more educated classes (physicians, philologists, and lawyers); of the female sex only a few cases are reported as ruminants (in all nine cases, figured from the paper of Johannessen).

This alone would not prove that rumination, in fact, appears less frequently in men of the lower class and in the female sex; for very often a man of the working class does not deem his condition as a ruminant to be abnormal, and does not make mention of it to his physician. On the other hand, there are several people (especially among women) who would like to conceal their affection, and therefore do not speak about it. In consequence thereof, the correct relation of rumination, in reference to its distribution among the two sexes and the different social classes, cannot be ascertained from the cases reported in literature.

In the insane and idiots rumination has been found quite frequent. Thus G. Cantarono [2] found 9 cases of rumination among 400 male insane; among 300 female insane he did not find any ruminants. Bourneville and Séglas [3] likewise lay stress on the frequency of rumination in idiots, and also in epilectics.

5. **Duration of the Affection of Rumination.**—The duration of merycism is very variable; sometimes there is rumination keeping on uninterruptedly during the whole of life. Often rumination appears periodically in form of attacks; in these cases periods of rumination alternate with normal periods for intervals of different lengths.

Sometimes rumination suddenly ceases at the occurrence of an important change in the life of the merycist. Thus in literature a case is mentioned in which the ruminant stopped immediately after marriage.[4] But, there is also a report of another case in which rumination made its appearance a day after marriage.

These varying circumstances can only prove how deeply rumination is connected with the nervous functions.

6. **The Chemical Analysis of the Condition of the Stomach in Ruminants.**—The investigations made upon the chemical condition of the stomach in merycists are of the most recent time.

Johannessen [5] says briefly, in his elaborate paper on rumination, that at the end of rumination the ejected materials showed an acid reaction. Alt,[6] in 1888, was the first to make exact examinations of the stomach-contents in a ruminant. As soon as the patient suppressed

[1] Arnold: Untersuchungen im Gebiete der Anatomie und Physiologie, p. 211. Zürich, 1838.
[2] Luschka: Virch. Arch., 1857, p. 427.
[3] Poensgen: Die motorischen Verrichtungen des menschlichen Magens, p. 127. Strassburg, 1882.
[4] Koerner: Deutsch. Arch. f. klin. Med., Bd. xxxiii., p. 554.
[5] And. Dumur: De la paralysie du cardia ou mérycisme. Diss. Berne, 1859.
[6] Alt: Berl. klin. Wochenschr., 1888, N. 26, 27.
[7] Boas: Ibid., N. 31.

[1] Koerner: Deutsch. Arch. f. klin. Med., l. c.
[2] G. Cantarono. Neurolog. Centralbl., iv., 1885.
[3] Bourneville et Séglas: Du Mérycisme, Arch. de Neurologie. Paris, 1883.
[4] Cit. Poensgen: l. c., p. 129.
[5] Johannessen: Zeitschr. f. klin. Med., Bd. x., p 274.
[6] Alt: Berlin. klin. Wochenschr., l. c.

rumination it was found that the obtained stomach-contents, three to four hours after a trial-dinner, contained free hydrochloric acid, were rather hyperacid, and showed very retarded amylolytic qualities. But as soon as the patient had practised his rumination as usual, the obtained stomach-contents were less acid and the amylolysis was much better. Alt presumes that the rumination in his patient had the purpose of correcting the fault made by a deficient salivation of the food and the hyperacidity arising from it. "We would have," Alt says, "in rumination an institution for correcting the hyperacidity effected by a deficient salivation and the bad digestion of the amylaceous matters." Acting on this theory, Alt treated his patient with alkalies, with the result that the patient was less inclined to ruminate, and further, could suppress the same much easier.

In favor of Alt's theory would be perhaps the case of rumination reported by W. A. Hubbard.[1] A farmer, aged thirty-five, consulted Dr. Hubbard for, as he expressed it, "the restoration of his lost cud." This patient had the habit of ruminating his food since a period beyond his recollection, and had always enjoyed perfect health; now, for a month the rumination had stopped, and was immediately followed by dyspeptic symptoms. All medicaments proved to be of no use. Should we look with Alt upon rumination as a means of correction, it would be very easy to understand why the patient had the dyspeptic symptoms at the cessation of the rumination, and his wish and hope that "his habit will return as suddenly as it left him," justifiable.

Soon afterward, however, Boas[2] published a case of rumination where the chemical analysis of the stomach-contents showed the acidity to be diminished in a high degree. The treatment consisted in giving the patient hydrochloric acid, and the result was a diminution of the rumination and an amelioration of the glandular function of the stomach. In this way by Boas's case Alt's theory has been refuted.

Shortly afterward Juergensen[3] published two cases of rumination, with an absence of the free hydrochloric acid.

Nothing else has been written since, as far as I am aware, on the chemical analysis of the stomach-contents in ruminants.

After this brief preliminary discussion, permit me, Mr. President and Gentlemen, to introduce to you two cases of rumination which I have had under my observation.

Case I.—June 1, 1889. Ernst K——, aged forty-five, baker, had typhoid fever twelve years ago and was perfectly cured; otherwise the patient had always enjoyed good health. About seven years ago the patient suffered much from eructations and regurgitations after meals. For five or six years the patient noticed that, about one-half to one hour after meals, the food partaken of was rejected in small quantities from the stomach into his mouth; he would chew it again and swallow it, not having any bad sensation in doing so; the taste was even the same as during the meal. Meat would be ejected first, then bread, vegetables, etc. Cabbage and turnips were, likewise, ejected before the other food. When the patient drank water, this would never come up again; milk, however, would be ejected in a curdled condition after ten minutes, and was ruminated. The ruminating process once begun continued usually for one-quarter to one-half an hour.

The rumination in this patient made its appearance periodically, and was intercepted by free intervals of variable duration.

Since the year 1886 the patient had an attack of rumination lasting one year and a half. During the whole of this period the patient had to ruminate after each meal.

The duration of the other attacks was from three to six months.

Rumination has not been observed in any other member of the family of this patient. The patient believes that his affection arose from eating too quickly.

During the attacks of merycism the patient does not feel sick, but is annoyed by the rumination on account of the company present.

The rumination in this case is perfectly independent of the will of the patient, and the patient can neither ruminate spontaneously nor is he able to suppress the coming rumination. At present the patient has ruminated constantly for three months. For the past three or four years the patient has been subject to constipation.

The physical examination does not show anything abnormal. The patient is of medium height and well built; he, however, looks somewhat pale. The tongue is not coated. Seven seconds after the swallowing of water a rattling sound is heard on auscultation at the xyphoid process.

Examinations of the Stomach.—1. June 1, 1889. One hour after Ewald's trial-breakfast: HCl +, acidity = 54, erythrodextrin +, dextrin = 0.

2. June 6, 1889. When fasting: the stomach contains about 5 c.c. of a whitish turbid fluid; HCl +.

3. June 30, 1889. One hour after trial-breakfast: HCl +, acidity = 40, achroodextrin +, erythrodextrin + traces.

4. July 1, 1889. One hour after the trial-breakfast: HCl +, acidity = 50, erythrodextrin + much.

5. July 13, 1889. One hour after the trial-breakfast: HCl +, acidity = 100, dextrin +.

Case II.—March 26, 1890. G. P——, physician, aged twenty-seven, had gastritis febrica in his childhood, and in 1884 typhoid fever. Since his ninth year the patient has been troubled with his stomach; at that time, during a period of six months, the patient usually vomited after partaking of food, especially after fluid nourishment. Sometimes the patient had to vomit at the beginning of the meal, immediately after the soup, but could, nevertheless, continue to partake of his meal directly afterward. Since then the condition of the patient had become ameliorated, and instead of vomiting there appeared rumination.

The rumination in this patient appears spontaneously, about one hour after meals, and continues for about a quarter of an hour. The food comes up in small quantities (in form of boli). The taste is not sour; in chewing the cud the patient has a pleasant sensation.

When the patient partakes of fluid food only (as, for instance, beer, bouillon, coffee, milk), then it is not ruminated.

The patient has no ailments whatever.

In this patient the rumination appears periodically; thus, for instance, the patient ruminated three months, and then was free from it for about a year.

Even during the period of rumination the bowels act regularly; the patient, however, often suffers from belching.

He is able to ruminate at will any time there is food in his stomach. The act of rumination proceeds, even then, without any effort. In order to effect the rumination the patient closes his glottis and exerts slight pressure over the stomach by means of his abdominal muscles; the contents are then ejected in small portions into the mouth. Patient is able to do this in any posture; when sitting or standing, however, this act proceeds with more ease than in a recumbent position. In the same way the patient is voluntarily able to belch and to vomit; the latter in such a way that all the stomach-contents are ejected at once. In this way the patient is enabled to cleanse his stomach easily; he does this by drinking a large quantity of water and ejecting the same immediately after. The patient also has the faculty of stopping the vomiting at any moment he chooses, and in this way he can alternate vomiting with rumination. Patient has diplopia and is color-blind in one eye.

The father of the patient and several of his brothers

[1] W. A. Hubbard: Medical Record, July 31, 1880, p. 122.
[2] Boas: Berl. klin. Wochenschr., l. c.
[3] Juergensen: Ibid., 1888, N. 46.

and sisters are troubled with the stomach; the main symptom of their ailment is belching; nobody in the family, however, had rumination. The patient is able to suppress rumination, not feeling any pain in doing so. He does not know what causes the periodical attacks of rumination. After excitement the patient is more liable to fall into an attack of rumination.

The physical examination showed no abnormal conditions whatever. Patient is of medium hight, well developed, somewhat stout. Tongue perfectly clean. The stomach does not seem to be dilated. Seven seconds after swallowing water a rattling sound appears on auscultation at the xyphoid process.

Examinations of the Stomach.—1. During the rumination period. September 15, 1888. One hour after Ewald's trial-breakfast: HCL+, acidity = 50; erythrodextrin+, achroodextrin +. On the same day the patient took 1.0 salol in a gelatine capsule; the urine shows the salicyluric acid reaction (it becomes dark red on addition of a few drops of liq. ferri sesquichlor.) after one hour.

2. During an interval of freedom from rumination. March 25, 1890. One hour after trial-breakfast: HCL +, acidity = 54; erythrodextrin +, achroodex.+. After this examination the patient had to ruminate for three days, then the rumination ceased.

Epicrisis.—On considering the two afore-described cases of rumination, we must exclude heredity in both of them as being the etiological factor. In both cases the appearance of rumination was preceded by dyspeptic conditions, associated with belching and regurgitation or vomiting, in such a way that it might seem that the rumination was developed from this condition.

In both reported cases the merycism appeared periodically, the length of the period varying very much; thus in K—— one period of merycism lasted for one year and a half; another, however, only for three months. In the second patient a period usually lasts three months.

Patient P—— is able to voluntarily produce rumination at any time he likes, and can suppress it in the same way. This is quite different with patient K——; the latter is neither able to ruminate at will, nor can he suppress rumination.

In both patients, seven to eight seconds after the swallowing of water a rattling sound was heard at the xyphoid process in the normal way (Meltzer's Durchpressgeraeusch); the so-called "Durchspritzgeraeusch"—or the sound which appears right after swallowing water at the processus ensiformis—was absent. In this way the cardia—as far as can be ascertained by the swallowing sounds—proved to be normal as regards its contracting power.

It appears to be improbable that the relaxation of the cardia should be the only cause of rumination. For, on the one hand, the normal "Durchpressgeraeusch" was present in my two patients and in that of Boas. On the other hand, there are many people with the "Durchspritzgeraeusch"—which shows a relaxation of the cardia—who never ruminate.

Is the cardia in our merycists normally closed—as has just been shown—the same must open at the commencement of rumination, at the ejection. This opening occurs perhaps through the cardia-opening or relaxation-centre, and in this way rumination can begin. Luchsinger, from his experiments on animals, conjectured a centre for rumination in ruminant animals. It is not probable that such a centre exists *a priori* in men; in time, however, the cardia-opening centre may gain the faculty of presiding over rumination also. This centre for the opening of the cardia and rumination is, as such, independent of the will; in some people, however, there may arise a connection between the same and the will centres; then rumination can proceed voluntarily.

I have already remarked above that, in most cases, merycism does not appear as such at once, but that it probably gradually develops from eructations and regurgitations. When a patient suffers a long time from belching and eructations of some of the stomach-contents, he is sometimes liable to swallow the upheaved portion, and he is more liable to do that the oftener the regurgitations repeat themselves within a certain time.

Now, then, we know that the stomach is inclined to occasionally repeat some process which has been done exceptionally, or that a habit is easily liable to become developed. The following fact shows this most conspicuously: When taking up the sponge-experiments of Spallanzani on himself, Brown Séquard[1] was able to do it a short time, and once the sponge was ejected from the stomach; since that time Brown-Séquard, although not swallowing the sponge any more, had to eject everything he had partaken of.

We can imagine that the stomach would undertake regurgitations, perhaps first in consequence of dyspeptic conditions; afterward, however, especially when the ejected contents had been swallowed, as a kind of a habit to repeat this whole process. But as soon as food is ejected into the mouth early after a meal, at a time when it has not yet been changed much, the same will soon begin to do its usual work—the chewing—upon these returned materials from the stomach. In this way we could imagine the development of rumination in many cases.

In order to demonstrate what great influence habit might have, and to what skill one can arrive by it, I might mention the peculiar case of Le Juge de Segrais.[2] A boy of eleven years was able, after having partaken of a meal composed of different food-substances, to select one certain dish, which he liked most, for rumination; then only this favorite dish, without any admixture of the other food-substances, was ejected into the mouth. ["Il mangera de plusieurs plats, les uns aussi variés que les autres; celui qu'il aura eu l'idée de faire revenir, reviendra seul, sans mélange des autres."] As to the origin of the rumination in this boy the following is mentioned: The boy had lived several months in the country, where he had to partake of a great deal of milk prepared in various ways. The stomach, often being overfilled, regurgitations frequently appeared. The boy began to swallow the regurgitated food, and soon became used to this whole process—so much so, that he found great pleasure in doing it. Since that time the boy commenced to ruminate. The boy would ruminate those dishes especially which he liked most, in order to enjoy, as he himself expressed it, the taste of good things a second time. In time the faculty of selecting the favorite dishes, even after a meal composed of different foods, for rumination, was developed.

Darwin,[3] likewise, mentions the case of a man who was able to select the food he intended to ruminate.

Although self-acquisition and habit may sometimes be the originating cause of rumination, this affection, in order to explain the periodical attacks—its sudden stoppage and sudden appearance—must, nevertheless, be classed with the neuroses of the stomach.

After these theoretical explanations we might again return to our two cases of rumination.

In considering the figures of the chemical analysis of the stomach-contents of the two merycists, it might easily be seen that no relationship whatever can be found between the chemical condition of the stomach-contents and rumination. In one patient the condition of the stomach was perfectly normal in every respect, the chemical analysis showed the presence of hydrochloric acid in a normal quantity; the power of motion also proved to be adequate; Ewald's salol reaction appeared after one hour. In the other patient the chemical analysis of the stomach-contents varied greatly on different days. There was found once normal acidity (50), once rather subacidity (40), and once hyperacidity (100), whereas hydrochloric acid was always present.

From this last case the conjecture of Ewald is confirmed. This author,[4] in his book on the "Diseases of

[1] Cit: Bourneville et Séglas, l. c.
[2] Le Juge de Segrais: Journal de Médecine de Paris, 1887, p. 58.
[3] Darwin: Cit. Bourneville et Séglas, l. c.
[4] Ewald: Klinik der Verdauungskrankheiten, Bd. ii., 2d edition, p. 440.

the Stomach," says in reference to rumination: "I would not be astonished, the conditions being the same, if varying degrees of acidity were found in the same patient, because such changeable conditions are in the nature of many neuroses." The case of patient K—— furnishes the best example for such an occurrence, and from this we can infer that no connection exists between rumination and the chemical condition of the stomach.

Therapy.—Formerly hydrochloric acid, alkalies, narcotics, and the bitter remedies were tried empirically now and then, with apparent results for a short time, and sometimes without any influence whatever. Lately it has been tried to remedy the error—if any—ascertained after a chemical examination of the stomach-contents, and hydrochloric acid or alkalies have accordingly been given, with good results.

Koerner [1] tried giving small pieces of ice immediately after meals, and warmly recommends this method. Washing of the stomach has been practised by Johannessen,[2] and gavage (feeding through the stomach-tube) during fourteen days by Juergensen,[3] but with only temporary relief. All these remedies sometimes effect a temporary amelioration; a permanent cure, however, has never been achieved by therapeutic means. As an exception to this rule we might perhaps consider the moral treatment—*i.e.*, the patient determines not to ruminate and, as soon as a desire to ruminate appears, endeavors to suppress it. Poensgen [4] mentions two cases of merycism perfectly cured by this method.

Surely this moral treatment can only be applied in cases in which the rumination can be suppressed by the will-power of the patient, but not in cases in which the rumination is wholly independent of the will.

In treating Dr. G. P.. I have made use of this method; the recipe was: As soon as the patient feels any inclination to ruminate, to try with all his power to suppress it. The patient has carried out this rule quite conscientiously, and the merycism has since that time occurred only occasionally. In the treatment of the other patient (K——) different tonics and cracked ice have been tried, without any result.

Even though the therapy of rumination is very scant, we can console ourselves with the fact that the vital functions of the organism, as before mentioned, are never endangered by merycism itself, and it therefore must not be considered as a disease, but looked upon merely as a physiological anomaly.

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TRANSLUMINATION OF THE LARYNX AND OF THE ANTRUM OF HIGHMORE, WITH DEMONSTRATIONS.[5]

By W. FREUDENTHAL, M.D.,

NEW YORK.

As the subject of this paper is a relatively new one, I would beg leave to make a few explanatory remarks before demonstrating the apparatus.

This subject has engaged the attention of laryngologists for about a year, and it is to be deeply deplored that the reviver and real founder of it—Professor Voltolini, of Breslau—has died, alas! too early for us. Voltolini, to whom I am indebted for sending to me this apparatus, applied this method with almost youthful enthusiasm, and it is easily explained that at the beginning of these investigations he did not have the right idea of all he saw.

To find an English word for the German "Durchleuchtung" was not easily done. I finally decided to select the term Translumination, though Dr. J. Solis Cohen, of Philadelphia, suggested, in a private correspondence on this subject, that the word should be Transillumination. According to my opinion the former word corresponds more closely to the German term, and describes more accurately the process involved.

Now, to get a view of the interior of the larynx we apply this lamp to the external surface of the neck, either at the pomum Adami, or near the cricoid cartilage, and introduce the heated laryngoscopic mirror into the dark pharynx, and thus we obtain a splendid view of it. But this view is quite different from that ordinarily seen. The first thing that strikes the observer is the disappearance of different colors. The whole larynx shows a red dish tint of varying intensity. When we place the lamp at the level of the incisura thyreoidea, then the vocal bands and all parts above them appear of a beautiful red color (of course the epiglottis is dark). But when we place the lamp near the cricoid cartilage, then we get a better survey of the whole subglottic region down to the bifurcation of the trachea, and this view is often more satisfactory than that obtained by the common method. But it must be observed that we have to become accustomed to this peculiar view of the larynx, for it may be said we see mostly in the negative. What in ordinary illumination impressed us as a thickening or an enlargement of a solid mass, in translumination strikes us as a dark object. The rays of light cannot penetrate, and we infer, that a solid mass, or a mass subject to the same optical laws, must intervene. We will therefore be able to define more precisely the contour of a tumor, because we see how the mass differentiates itself sharply by its dark outlines from the other parts in view. Only a few days ago I saw a patient of Dr. L. Weiss, who had a tumor on the posterior wall of the larynx, extending between the two cartilages from the left arytenoid downward. We can see the circumference of it by means of translumination better than by the ordinary method. I will have the pleasure of showing to you the patient, and will be very glad to have the benefit of your opinion upon the case.

Furthermore, we will be enabled to differentiate, in a certain case, between a solid tumor and a cyst, and this point seems to me to be of sufficient importance to give the method a fair trial. A few weeks ago I operated on a man who, a few minutes afterward, happened to be seen by Dr. Hoch, of Philadelphia. The patient had a tumor, the greatest part of which was below the glottis. It was attached to the right vocal band at the front angle, and extended over a little to the left vocal band. By means of translumination I could easily determine that it was a solid tumor, not a cyst, and could gauge the exact size of it. It is true that you could have excluded a cyst in this case even without translumination, but there are cases where this is not so easily done, and for those I think translumination also of value.

In this man, by the way, we could see, the day after the operation, that the œdematous vocal band was much more translucent than before the œdema had set in, and this brings us to the other class of cases, where we have a greater penetration of light than normally. This, however, can only be seen where loss of substance has taken place, as in ulcerative processes or in other pathological conditions which admit a greater penetration of light. When Gottstein [1] says, "the reddened vocal band seems just as translucent as the normal," he is correct; but you cannot draw from that a conclusion as to the usefulness of this method generally. Certainly we cannot recognize these changes, but there are others which we can see so much the easier. So, for example, an œdematous vocal band is differently translucent than an infiltrated one. The first is of a strong, light red, *i.e.*, much redder than the normal, the last is much darker. That is a differentiation which is interesting enough to us.

We come now to the translumination of the antrum of Highmore. For the purpose of transluminating this and the nose, the patient takes the small lamp in his mouth; then we see through the nasal speculum that the nasal

[1] Koerner: Deutsch. Arch. f. klin. Med., Bd. 33, p. 544.
[2] Johannessen: Zeitschr. f. klin. Med., l. c.
[3] Juergensen: Berlin. klin. Wochenschr., 1888, N. 40.
[4] Poensgen: Die motorischen Verrichtungen des Magens, l. c.
[5] Read before the Section in Laryngology of the New York Academy of Medicine, April 22, 1890.

[1] Deutsche Medicinische Wochenschrift, 1889, p. 840.

cavity is light; in fact, the whole face and the eyes seem light sometimes, as you yourselves will be able to see soon.

Now, when we take into consideration the way these rays of light have to pass, we will easily understand that the first condition of getting a view of the interior of the nose is the permeability of the nasal floor. Thus lately I had a case where, on the floor of the nose, not a very large broad-based polypus was found, which certainly did not occlude the maxillary foramen. Yet on this side translumination gave a negative result, while on the other a positive, *i.e.*, light. After removal of the polypus we succeeded in getting light on both sides.

Now if the nasal floor is permeable for the rays of light —which is the rule—then they spread to all sides, and we see the interior of the nose illuminated. If, however, it should remain dark, then we conclude that in the antrum there must be a body impermeable to the rays of light, more generally pus or a solid tumor. Should, however, a cyst filled with serous fluid be in the cavity, which, like in Voltolini's case, has enlarged the cavity and thinned its walls, then we would be able to see only so much the better. I would particularly like to draw attention to this point, as Voltolini seems to have been in error in this connection.

The presence of hypertrophied turbinated bodies does not seem to interfere, as one might imagine, with translumination, for I have often been able to see more distinctly, even when the hypertrophies were well marked. They seem to act like double convex lenses in collecting the light and making it more intense.

It might, perhaps, seem strange to some of you that the translumination of the nose depends so much on that of the antrum, as this lies so far externally to the nasal cavity. But this is certainly so. At present I am treating a gentleman for empyema of the antrum. Even after thoroughly removing all visible mucus from the nose, the affected side remains dark and becomes light only after I have syringed the antrum. So I can only assume that in pathological conditions of the antrum, perhaps the thickening of the mucous membranes, or of the bones or infiltration of pus on the floor of the nose, may also give the cause why the permeability of the light is completely excluded.

The non-appearance of light in the affected side is such an important symptom that by it we can make the diagnosis of empyema of the antrum. Heryng,[1] of Warsaw, reports ten such cases, where he with positiveness made the diagnosis by means of translumination. He operated on seven of them, so proving his diagnosis, and in the rest the diagnosis was beyond doubt. A few weeks ago Vohsen[2] reported excellent results of translumination, without giving any special number of cases. Since August, 1889, I have seen three cases of empyema of the antrum. In all three the non-appearance of light in the affected side could easily be noticed. I operated on them, and found that great masses of fetid pus in all three were discharged.

In those cases where we successfully apply Hartmann's air-douche or B. Fränkel's hanging-down of the head, where we have a permanent dropping of pus, or the different pains, tenderness on pressure over the canine fossa, etc.—in those cases we can make the diagnosis without translumination; but there is besides these a large number of them where, even to the most experienced diagnostician, great doubt exists. For those cases, I am sure, the translumination will remain of permanent value. For I cannot believe that to-day anybody would prefer to make an exploratory extraction of a tooth, or an exploratory incision, which is always more or less combined with pain, when he has at his service such a painless and easily accomplished method.

But important as it may be in a given case to make the diagnosis of an empyema, as valuable is it at times when we can say with certainty, "In this patient there is no pus in the antrum!" Once I came very near having a tooth drawn in a patient, when I was convinced by translumination that I was in error. The patient had no pus in the antrum.

Now permit me to add a few words on the pharynx. Voltolini introduced the small lamp behind the uvula, and could see not only the soft palate transluminated, but looking through a nasal speculum saw the whole nasal cavity. This, however, can only be done in rare cases, as the lamp becomes heated very quickly and burns. The application of cocaine, suggested by Voltolini, I would not recommend, as, the sensibility being reduced, the parts are apt to be cauterized unintentionally. So much for the pharynx.

The lamps of Voltolini have been modified by various authors. In Heryng's modification[1] where to Türck's spatula an electric lamp is fastened, I do not see an improvement. Vohsen's lamp, however, which prevents the rapid overheating of the small lamp, seems to be more conformable to the purpose. But I have not seen it yet, and can give no particulars about it.

The lamp for the larynx I have modified myself.[2] I was able to see with it in some cases more distinctly, and can handle it easier.

And now, gentlemen, if you want to try this method, allow me to give you some points:

1. For the exploration of the antrum an absolutely dark room is necessary, for that of the larynx not.

2. Never work without a rheostat, if you don't want to break too many lamps; and,

3. Never forget to ask your patient to take his toothplate out of his mouth before examining his antrum. For you might be tempted to diagnose empyema of the antrum on both sides, if you do not use that precaution!

In conclusion, let me say that if I have convinced you of the necessity of this new method of exploration, and if you give it a fair trial, then the purpose of this paper is accomplished. I believe, I have proved to you that, contrary to the opinion of Roth[3] and Gottstein,[4] this method is a valuable one also for the larynx. That it plays a great part in the diagnosis of diseases of the antrum, is, I think, already beyond doubt; that it, however, will enlighten us about the still very obscure diseases of the other accessory sinuses of the nose, this, I hope and wish sincerely.

1042 Lexington Avenue.

[1] Berliner klinische Wochenschrift, 1889, p. 774.
[2] Ibid., 1890, p. 274.

Early Laparotomy for Catarrhal and Ulcerative Appendicitis.—Professor Senn concludes as follows: 1. All cases of catarrhal and ulcerative appendicitis should be treated by laparotomy and excision of the appendix, as soon as the lesion can be recognized. 2. Excision of the appendix, in cases of simple uncomplicated appendicitis, is one of the easiest and safest of all intra-abdominal operations. 3. Excision of the appendix in cases of appendicitis, before perforation has occurred, is both a curative and prophylactic measure. 4. The most constant and reliable symptoms indicating the existence of appendicitis, are recurring pains and circumscribed tenderness in the region of the appendix. 5. All operations on the appendix should be done through a straight incision parallel to and directly over the cæcum. 6. The stump after excision of the appendix should be carefully disinfected, iodoformized, and covered with peritoneum by suturing the serous surface of the cæcum on each side over it with a number of Lembert stitches. 7. The abdominal incision should be closed by two rows of sutures, the first embracing the peritoneum, and the second the remaining structures of the margins of the wound. 8. Drainage in such cases is unnecessary, and should be dispensed with.—*The Journal of the American Medical Association.*

[1] Loc. cit., p. 777.
[2] Medicinische Monatsschrift, November, 1889.
[3] Die Anwendung des electrischen Lichtes, etc., Wiener Medicinische Presse, November 10 and 11, 1889.
[4] Loc. cit.

Clinical Department.

PREGNANCY AND SUCCESSFUL DELIVERY IN A CASE OF ALMOST COMPLETE CONGENITAL ATRESIA VAGINALIS.

J. J. E. MAHER, M.D.,

NEW YORK.

SEPTEMBER 18th, Mrs. F——, aged thirty, said she expected some trouble in her confinement; she had an operation over a year before for a false pregnancy, otherwise had never complained but once when her menses began. She thought she was in the ninth month, but proved to be in the eighth.

Vaginal examination revealed carunculæ myrtiformes as the remains of the hymen, a short vagina, and an absence of the cervix uteri. Here arose a question of diagnosis which I will pass over. There was a depression in the false bottom, situated near the posterior wall. The speculum confirmed what the finger had discovered. A Simpson's sound could not be passed through the barrier at any point—not even through the depressed spot. The finger in the rectum passed the end of the sound pressed against the apparent bottom of the vagina, and reached a more resisting body beyond. This I took for the missing cervix. The thickness of the obstructing medium I could not as yet determine. At this point, there was a possibility of making a grave mistake which some observers are said to have made before, namely, of concluding there was no opening, because Simpson's sound could not effect a passage.

Dr. C. C. Lee corroborated my diagnosis, and after much search succeeded in passing a probe 1.5 mm. in diameter. He recommended the gradual dilatation of the opening found by laminaria tents.

The obstructing medium, at the site of the opening, measured (gauging the constriction of the first tent used), 6 mm. in thickness, and was composed of all the structures proper to the vaginal wall. At the end of a week the finger could penetrate to the cervix.

November 1st, 8 A.M., I saw the patient in labor, which had begun about midnight. Membranes had ruptured early. Os dilated during a pain about twelve millimeters, and was thick and rigid. Vertex presentation in L. A. A. position. Pelvis ample, bladder and rectum empty. Vagina washed out with one-half per cent. solution of creolin, was lubricated with a creolin ointment. The vaginal stricture was dilated by Barnes' bags until 5 P.M., when the vagina began to become very sensitive.

Eight A.M., next day the os measured 5 mm. Sensitiveness not complained of. Bag No. 3 was dilated completely and left *in situ*. It was expelled at the end of an hour. After a further delay, it was evident she would never expel her child, and interference became imperative. In the afternoon the thermometer in the vagina indicated a temperature of 103° F. The pulse was 150.

After 4 P.M., Dr. George E. Abbott put her under chloroform. I passed a long Simpson's forceps, seized the head at the brim, brought it gradually down upon the perineum through the stricture to the vulva. A laceration of perineum being imminent, the forceps was removed. The *vis à tergo* soon drove the head through the vulva. The woman vomited, and the rest of the child was expelled *in toto*. The S. O. B. circumference of the child's head was 33.8 ctm. Dr. Abbott took the child in charge, but it could not be resuscitated. The highest temperature during the puerperium was 102⅘° F. on the evening of the second day. The vaginal discharges had become so virulent at this time as to convert every little scratch on my hands into a painful pustule.

Having implicit confidence in creolin, and being convinced that all the infection arose from absorption at the outlet; I ordered the napkins to be saturated with the creolin solution, and dried before being applied to the vulva. Of course creolin injections were also used. The only other drug used was tr. aconit. gtt. ij. every hour for the fever and pulse.

The third day the highest temperature was 99⅘° F., with a pulse 86. All smell of putrescence disappeared after the use of creolin napkins, and was never found again.

The patient did very well and was up on the tenth day. Seventeen days after delivery she reported herself well at my office four miles away. This is, I believe, the first case on record treated by the laminaria tents and Barnes' bags.

SUPRA-PUBIC LITHOTOMY.

BY WILLIAM NEILL, M.D.,

CHARLESTOWN, W. VA.

I REPORT the following case on account of the unusual size of the stone, and because of the excellent result following the operation of supra-pubic lithotomy in the hands of the general practitioner.

Thomas D—— had had irritable bladder for the last ten years. On October 19, 1889, I was called to relieve him, suffering from almost complete retention of urine. In attempting to introduce a soft rubber catheter I encountered an obstruction at the entrance of the bladder. A silver catheter was substituted, which passed to the same point, and refused to go further. In my endeavors to urge it onward, I was enlightened as to the character of the obstruction by a distinct metallic click. Every effort compatible with safety was made to drive back what I believed to be an impacted or encysted stone, and it was only after several attempts that I finally gained entrance. The urine passed, but in much less quantity than was anticipated, owing, as it proved afterward, to the reduced capacity of the bladder by reason of organic contraction.

I explained the condition to the patient and his family, and suggested an immediate operation, which was consented to. On October 21st, I operated by the supra-pubic method. The parts were shaved, and made as aseptic as possible. After the patient was anæsthetised the bladder was first washed out, and then filled to its utmost capacity with a warm solution of boracic acid (grs. x. to ℥ j.). Not possessing or having time to procure a rectal colpeurynter, I dispensed with it.

The incision was made in the linea alba, three inches and a half from above down to the pubic bone, dividing the abdominal walls to the transversalis fascia, which being more carefully divided, exposed the bladder to view. I removed its contents, and divided its anterior wall sufficiently to introduce the index-finger. Realizing that I had a stone of more than usual size to grapple with, I was compelled to enlarge the opening. Accordingly, doing so, I encountered the peritoneum, which was held up while making the cut. In removing the stone I experienced considerable difficulty, as my forceps were too small to embrace it, and finally was compelled to lift it from its bed with my two first fingers. It was afterward found to measure two inches and nine-tenths in length, two inches and five-tenths in width, and one inch and nine-tenths in thickness, and weighed six ounces, less thirty grains. Its chemical nature was not ascertained, but it resembled the uric-acid variety.

After the stone was removed the divided edges of the bladder were carefully stitched with catgut sutures to the abdominal walls, and the wound closed, leaving an opening for drainage; a rubber drainage-tube was inserted, but removed in a few hours on account of the pain and annoyance which it caused. The wound was frequently sponged with a solution of bichloride (1 to 1,000), and dusted with iodoform, and covered with a layer of borated cotton. No catheter was left in the bladder, the urine passing through the opening for fourteen days, before passing through the natural channel. After which the wound rapidly healed. The patient made a good recovery, and is at present in perfect health.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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MEDICAL OFFICERS OF PASSENGER STEAMSHIPS.

WHAT we have had to say, recently, in regard to the very unsatisfactory nature of the medical service on the transatlantic steamers, is corroborated by the report of the Health Officer of the port of New York, Dr. William M. Smith, to the Quarantine Commissioners. We referred to the dangers to which the passengers were exposed on account of the neglect of the first principles of sanitation on the ships, and of the incompetency of many of the ship surgeons. Dr. Smith takes another view of it, being naturally most concerned with the obstacles put in the way of an efficient quarantine through the carelessness and ignorance of the medical officers of passenger steamships.

If a Quarantine officer had only to detect and remove developed cases of contagious diseases among passengers on their arrival, his troubles would be comparatively insignificant. It is the possible existence of latent contagion among the well, which has been communicated to them through exposure to developed cases of disease—the medical officer having failed to detect its character sufficiently early and then to isolate the sick—that causes him anxiety. An instance of this sort is given in this report. The Deputy Health Officer reported a case of suspicious eruptive disease on the person of a passenger, that the ship's surgeon insisted was a case of acne. The officer refused to give the ship *pratique* without consultation, and it required but a brief examination to determine that the case was one of small-pox, in the third day of development, modified somewhat by vaccination in early life. Dr. Smith does not mince matters when he comes to comment on this and similar cases, for "neglect," he says, "on the part of the medical officer to detect the contagious diseases that develop among passengers during the stage of invasion, and to properly isolate them when discovered, is but another name for incompetency, and is even less pardonable than the ignorance which prevents their prompt recognition and their proper management."

But there is something to be said for the surgeon. He has little or no authority, even in matters purely medical, and the more he tries to do his duty the more likely he is to incur the enmity of the captain and the disapproval of the company that gives him his bread and butter. As Dr. Leet has so clearly shown in his pamphlet, to which we have referred in a previous article, the hospitals on shipboard are not infrequently put to other purposes, and when the surgeon demands them for the accommodation of his patients there is no end of grumbling, and the poor doctor is sometimes made to feel most painfully the displeasure of the other officers, which he has incurred by doing what was his duty and nothing more. Indeed a case in point is related in Dr. Smith's report. A certain steamer arrived with one of the crew sick with small-pox. The surgeon of the steamer had isolated the case, and while the man was still in the hospital another man was put in the same room, in the belief that he was suffering from the initial symptoms of the disease. The diagnosis in this case was found to be erroneous, and the man was ready to return to duty the morning before the arrival of the vessel at Quarantine; but the doctor thought best to keep him in the hospital so that the health officer could do as he thought fit in regard to the disinfection of the clothing and the disposition of the man himself. The captain heard of this, and calling the surgeon, asked with an oath why the man was kept in hospital if not sick, and ordered him back to work at once. When, on arrival of the ship at Quarantine, the surgeon was asked why the man was allowed to return with infected clothing to his place among the rest of the crew, he gave his testimony with reluctance, saying that he was sure it would cost him his place for telling.

It is easy enough, of course, to find a remedy for this state of things, but it is less easy to get the remedy applied. Only competent men should be employed, and they should be paid salaries proportionate to the value of their services, and should have the necessary authority to enforce the carrying out of sanitary measures. The only certain way of securing this reform is to take away, in a measure at least, the government of the surgeon from the steamship companies, and to make him a public officer responsible to the government under whose flag the vessel sails. There is no more crying evil, the Health Officer says, in the transatlantic passenger steamship service at the present time than the inefficient medical service on many of the regular passenger steamers to this port. He proposes the following measure of relief, which, if it were followed out, could not but result in a vast improvement in the quality of the ship doctors:

"First. A medical marine service under the control and management of the government (or a board of control responsible to it) whose flag the steamer flies, will be the first and most important step toward reform.

"Second. The adoption by such authority of the following rules is essential:

"1. Medical officers with good professional qualifications and high character.

"2. Adequate compensation for the medical officer. The minimum compensation for properly qualified medical officers should be not less than $100 per month.

"3. The service should provide for promotion to the charge of better-class steamers of the line, with increase of rank and compensation proportionate to length of service and general efficiency.

"4. The surgeon's tenure of office should depend on his ability and efficiency, and his discharge from service should be effected only by charges made and sustained before the government board which certified to his qualifications for appointment.

"5. Marine medical officers in charge of passenger ships should have their duties distinctly defined, their responsibilities clearly determined, and their status as officers well understood through rules and regulations made by a supervisory board.

"6. The authority of the medical officer should be independent and absolute in those medical and sanitary matters which affect the lives and health of those on board the ship, or which may, by neglect or improper management, expose the health of the people in this country."

We have quoted at some length from this report because we feel that the matter is one of paramount importance, affecting as it does so closely the prosperity of the community. No one is in better position to observe the shortcomings of ship surgeons than a Quarantine officer, and the testimony he bears to their general inefficiency, and to the obstacles thrown in the way of those who really are competent and who try to do their duty, should have a wider publicity than it is likely to obtain in the pages of a legislative report.

THE ABOLITION OF CAPITAL PUNISHMENT.

There has perambulated down the ages a legend to the effect that "the doctor takes life easily," and it might be inferred that he would regard the taking of life by society without any sentimental protest at least. We believe it is true that the physician looks at the question of capital punishment very objectively, and passes judgment upon it mainly as he would upon a question of therapeutics—for this is what it is. If society can better preserve and protect itself against criminals by their strangulation or electrothanatosis, why, then, these measures should be employed. No question of first principles or inherent rights or sentiment is involved. The public mind is being exercised upon this matter just now, and we hope with fruitful results. It appears as if the death penalty were a necessity in the early stages of social organization, but that as civilization advances it becomes useless and unwise.

"ONLY A DOCTOR."

Dr. David W. Cheever recently gave an address to the graduating class of the Harvard Medical School which was replete with practical wisdom and elevated feeling. All the advice given has, no doubt, been given before; but it does good to repeat and emphasize the points which young physicians—and their elders too—should keep ever before them as guides to successful living.

"The first requisite is *work*. Cultivate good manners. Be reticent. Always show a cheerful face. Never give up a case while the patient breathes. Stay at home; be ready in your office. Medicine is not a trade, it is the noblest profession; cling to that thought. The Golden Rule is the true code of ethics. Be gentlemen, and not rude, grasping boors; respect others' rights and you will be respected."

Such are some of the sentiments which Dr. Cheever has laid down, and they are sentiments which will be warmly echoed by every one.

But Dr. Cheever has made some mistakes in his advice, and mistakes which no one occupying his position as a teacher and moulder of young minds ought to commit.

He says: "Do not allow yourself to be known as anything but a doctor;" "unlike the law, medicine leads to nothing else save science."

We submit that it is just because doctors have always inculcated such sentiments as these that doctors hold so small repute in public life. Socially the doctor is often shunned because he can or will talk nothing but his everlasting "shop"; politically the highest office he can legitimately seek is that of an assistant coroner. The wishes of a great State Medical Society have less weight than that of a single ward "boss."

This all comes not alone from the exacting nature of his duties, but much more from the fact that the doctor has been constantly inoculated with the deadly virus of the Cheever sentiment, "Do not allow yourself to be known as anything but a doctor."

Would it be any harm if the doctor were known also as a philanthropist, or a sanitarian, or a statesman, or an anthropologist? Successful physicians have filled all these rôles, but it has been far too rarely.

We quite agree that professional work is first, and beyond everything else, in the doctor's life; but the times are changing; the physician belongs to the best educated classes, his mind receives through his professional work the best kind of training. He owes something to society in general as well as to the sick. Every doctor ought to have some interest outside of his profession. It will make him a more useful and interesting man and a more skilful physician. The constant and assiduous pursuit of the calling of physic tends to produce a routine in methods of thought and action. The doctor, like the overtrained athlete, gets "stale." Let him, therefore, always cultivate an antidote, and let people gradually discover that though he is a good physician he is something else also.

PROCREATION OF THE CRIMINAL AND DEGENERATE CLASSES.

Our brethren of California are fully up to the times in matters of a social and sanitary kind. The President of the State Society, Dr. Walter Lindley, in his annual address, asks:

"Why should not every man and woman who desires a license for marriage be required, before such license is issued, to show the County Clerk a certificate from the County Physician, certifying that both he and she were free from any taint of consumption, gonorrhœa, syphilis, or scrofula. I ask you, gentlemen, to give this subject, which to me seems a very important one, your serious consideration."

He further adds: "Knowing, as all surgeons do today, that castration and spaying are simple operations that can be performed with about as little danger as the ancient rite of circumcision, I do not hesitate to advise that the following classes be required by law to submit to this procedure: Idiots, those who commit or attempt to commit rape, wife-beaters, murderers, and some classes of the insane."

We admire the doctor's generous breadth of view in proposing to castrate the men as well as to spay the women. Fortunately, however, it is a physiological law that the degenerate classes have little procreative power and tend to die out of themselves. What society needs most, therefore, is the adoption of such ethical and social measures as will prevent the development of new vicious and criminal families.

News of the Week.

Tenth International Medical Congress.—By direction of Count Arco, the German Ambassador in Washington, the Consul-General of the German Empire in New York, Mr. A. Feigel, sends the following:

Conditions and Rules Referring to the International Medical and Scientific Exhibition in Berlin, August, 1890.—I. The Exhibition will be opened at 11 A.M., on August 2, 1890, and closed, probably, August 11th, P.M., in the Landesausstellungs Park; the sections of the International Medical Congress will meet in the same place. Provision will be made for dark chambers, rooms for experimental purposes, and appropriate demonstrations by experts. The Exhibition is limited to the following objects: New or improved scientific instruments and apparatuses for biological and strictly medical purposes, inclusive of those for photography and spectral analysis applicable to medicine. New pharmacological, chemical, and pharmaceutical materials and preparations. New foods. New or improved instruments for operations in medicine, surgery, special branches, electrotherapy, etc. New plans and models of hospitals, convalescent homes, and establishments for disinfection and bathing, arrangements for nursing and transport. New hygienic apparatuses. New tables and charts of a statistical nature. Preparations and models. Teaching apparatuses. Medical literature.

Applications are expected before May 15, 1890,[1] and will be received by the Secretary General of the Congress, Dr. Lassar, Berlin, N. W., Karlstrasse 19. They must be marked "Ausstellungsangelegenheit," and accompanied with a printed visiting or business card containing name and address. II. Of each application there ought to be two copies. It is requested that it should contain a brief and accurate description fit to be used in the compilation of the catalogue. III. The decision as to the admission of all or part of the proposed exhibits rests with the special or general boards of organization; they will send an immediate reply. IV. The cost of every square metre, or part of a square metre, of floor or table surface is 10 marks, of wall surface 6 marks. Two metres in height of the wall are free for those adjoining the wall. Exhibits in the interior of the hall pay for one-half of the walk immediately surrounding, in addition to the space occupied. V. Tables will be furnished. Cases, shelves, repositories, must be procured by the exhibitors under the supervision of the committee. Electric light, steam power, etc., can be had by special arrangement. VI. Inflammable objects are excluded. Insurance of those admitted will be secured free of cost, if notice of their value have been given. VII. Packing and unpacking is free of expense to foreigners. Great care will be taken but no responsibility. Expressage by Messrs. Jacob and Valentin, Berlin, O. Holzmarktstrasse 65. VIII. The exhibits must be delivered on or before July 20th. Foreign goods will be free of duty, but certificate—to accompany the goods—ought to be obtained from the exhibition office, Karlstrasse 19.

Form of Application.—The undersigned being acquainted with the conditions and rules referring to the International Medical and Scientific Exhibition in Berlin, August, 1890, requests admission for the following exhibits: Space wanted.—Floor surface, length, breadth; wall surface, breadth, height. Exhibition will take place (a) in own case: adjoining the wall? inside? (if the latter add a diagram); (b) on tables to be furnished by the committee: in flat cases? exposed without them? on shelves? the wall surface above the table is required to the height of? (c) on the floor, without case, etc.; (d) as drawings, diagrams, or in narrow cases attached to adjoining walls? value for insurance purposes; special requests; brief notes for catalogue; name, etc.

[1] Count Arco has made such arrangements that applications coming from the United States will be received until July 1st.

A Medical "Trust."—According to *The North American Practitioner*, a member of the Chicago Board of Health, a west-side physician, the Mayor, and a noted criminal lawyer have combined to form a "Medical Trust," so called; which seems, however, to be only a kind of Provident Medical Association. Members are required to pay one dollar per month, quarterly, in advance, in lieu of all professional services which they require. This includes medicines, and presumably bottles to contain the same, but whether or not nurses are also provided by the association remains yet to be discovered. *The Practitioner* seems to think the scheme a novel one, when in fact it is a very old one, and has worked with some success in England.

The College of Medicine of Southern California held its Annual Commencement on April 16th, and graduated a class of seven.

The Attendance at the forthcoming International Congress at Berlin, this summer, is estimated to exceed five thousand, and special arrangements will be made in consequence.

Injustice to a Physician.—A physician of this city was called to treat a patient who had been a morphine-taker. She was suffering great pain and desired hypodermic injections of the drug. The physician substituted distilled water. At the end of five months, the patient having become convalescent, the physician confessed the substitution, doubtless believing the facts would be a relief to the family. About the same time, also, he rendered his account for professional services. On seeking to collect the latter, payment was refused, and suit was thereupon entered, the defendant making response that the "charges were extortionate, and deception had been practised." As may be imagined, the defence was a quibble to avoid payment. The legal complications, however, were such that the suit was compromised and the physician accepted one-third of the original bill.

Dr. Benjamin Duval, aged sixty, died in Frankfort, Ky., on May 10th, of consumption.

The St. Louis College of Physicians and Surgeons.—Dr. Louis Bauer has resigned as dean of this college, and Dr. A. S. Barnes has been elected in his place. The war between the Ins and the Outs in this institution is now carried on in the daily papers. An Out makes a statement in the *Republic* which the leading In characterizes as untrue, and so harmony creeps on apace.

Dr. Robert W. Taylor has been appointed Lecturer on Venereal Diseases at the College of Physicians and Surgeons.

Large Fees.—In this age of rapid railway travel the medical consultant finds its possible to visit clients in the remotest parts of the continent. In fact a medical man nowadays thinks nothing of travelling a thousand miles away from his home, on a few hours' notice, to see a patient. Recently Dr. Park, of Chicago, at the request of a patient, went to San Francisco, and received the princely fee of $25,000 for his services, which extended over a period of several weeks; and we learn that Dr. Samuel Sexton went last week to St. Paul, Minn., where he successfully performed an operation on the ear, for the cure of deafness, and for which a similarly large fee was given.

The South Carolina State Medical Association, at its annual meeting, held in Laurens, elected the following officers for the coming year: *President*—Dr. Thomas P. Bailey, of Georgetown; *First Vice-President*—Dr. E. Miller, Florence; *Second Vice-President*—Dr. P. A. Wilhite, Anderson; *Third Vice-President*—Dr. Thomas McCoy, Laurens; *Recording Secretary*—Dr. W. P. Porcher, Charleston; *Corresponding Secretary*—Dr. O. S. Missildine, Charleston; *Treasurer*—Dr. H. W. DeSaussure, Charleston. The next annual meeting will be held at Anderson. The following papers were read before the Association: "A Probable Case of Cyst of the Spleen," by Dr. J. K. Gulder; "The Cause of Tubercular Disease in the Negro," by Dr. T. J. McKie; "Laparotomy for Fibroids in the Uterus, Dermoid Cysts of the Ovaries, and Ectopic Gestation," by Dr. Cornelius Kollock; "Young Eyes," by Dr. C. W. Kollock; "Intraligamentous Cysts, Colecystotomy of Pregnant Women," by Dr. R. B. Rhett, Jr; "Report of Cataract Cancer," by Dr. C. W. Kollock; "Origin of Sputa in Subacute Cough," by Dr. W. P. Porcher; "Six Recent Cases of Laparotomy for the Uterine Appendages," by Dr. R. A. Kinloch; "Physical Culture," by Dr. E. T. Darby; "Retention of Menses," by Dr. O. B. Mayer, Jr.; "A Surgical Case," by Dr. B. W. Taylor; "Advance in Obstetrics," by Dr. P. Gourdin DeSaussure; "Vesico-Vaginal Fistula," by Dr. F. W. P. Butler; "Report of the Committee on Ophthalmology," by Dr. George Howe; "Report of the Committee on Practice of Medicine," by Dr. T. P. Bailey; "Arterio-Venous Aneurism," by Dr. Manning Simons; "The Treatment of Pelvic Peritonitis," by Dr. Thomas Legare; "Report of the Committeee on Surgery," by Dr. O. B. Mayer, Jr.

Dr. F. N. Otis has been appointed Professor Emeritus of Genito-Urinary and Venereal Diseases at the College of Physicians and Surgeons, New York.

The Rhode Island Medical Practice Bill has been defeated in the legislature by a vote of twenty-two to eight. The physicians of the State were apparently not very active in support of the bill.

The Royal College of Surgeons.—Sir Morell Mackenzie has recently made a lively and vigorous attack upon the Royal College of Surgeons, in the *Fortnightly Review*. Americans are but little interested in the controversy, but we fancy that on a plain statement of the merits of the case their sympathies would go with Sir Morell Mackenzie and the members of the College who are fighting for the principle of representation. The members support the College largely by their fees, but they have no vote or voice in the management, and not even a right to use the College building.

Dr. Arthur H. Wilson, of Boston, died suddenly a few days ago of heart trouble. He was a graduate of the Harvard Medical School, and served during the latter part of the war of the rebellion as assistant surgeon of the Seventh United States Veteran Volunteers.

Burial of Dr. Cronin.—The remains of Dr. Cronin, which had been lying in a vault in Calvary Cemetery, Chicago, were interred a few days ago. A fund has been started for the erection of a monument to his memory.

The Johns Hopkins Medical College.—The new movement regarding this proposed institution has already been noticed by us. The circulars and collection blanks which have been sent out set the final day for collection March 1, 1891, and they contain this proviso, "on condition that women be admitted to the school, whenever it shall open, on the same terms as men, it being understood that the amount [subscription] be returned to me [the subscriber] by June 1, 1891, unless at least $100,000 be raised, and unless the admission of women to the school be assured by vote of the trustees of the university." Following this announcement comes the declaration from one of the Board of Trustees that preparations for the establishment of the school are being made, and that some of the professors have been engaged. As to the admission of women, he says that the trustees have not voted on that point. It seems that the sum of $100,000 has already been given for the school, and that a number of enterprising women are trying to raise another $100,000, with which they hope to buy their way into the school. A considerable part of the sum has already been raised. Medical co-education has been tried in a number of places in this country; it seems to be the opinion, however, that the best results are obtained either by independent schools or by the "annex" system.

Prize Essay Medical Society of the County of New York.—Essays in competition must be sent to one of the undersigned on or before October 1st. Other things being equal, preference will be given to essays which exhibit original work on the part of the author. The subject is simply restricted to the field of what are called the departments of medical study. The value of the prize is $100. L. Bolton Bangs, M.D., *Chairman*: Egbert H. Grandin, M.D.; Andrew F. Currier, M.D.

Death of Mrs. J. Marion Sims.—Eliza Theresa Sims, wife of the late J. Marion Sims, M.D., died in New York City, May 11, 1890, at the age of seventy-four. The announcement of her death can find no more appropriate place than in the journals of a profession in which her husband won a world-wide fame, leaving to humanity, in the triumphs of his skill as a surgeon, the means of relief from ills hitherto incurable. To commemorate his matchless genius there is soon to be unveiled in this city a statue in bronze, a fitting tribute of admiration from fellow-workers in the healing art, and of love from woman, to benefit whom his labor was directed. To those who know the story of his life and its brilliant achievements, which carried the fame of American surgery throughout the civilized world, there can be no tribute to his memory which is not fully shared by the brave, ambitious, tender, and loving wife, who watched over, worked for, and helped to win immortality for Marion Sims.—W.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 1, 1890.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

Academy Coupons. — DR. F. A. CASTLE offered a resolution, to be acted upon after a month, authorizing the academy to issue a series of bonds, not to exceed thirty thousand dollars, to bear five per cent. interest, payable on or before 1900. The sum thus raised was to go toward completing and embellishing the new building.

Adjourned Discussion on the Relation of Peripheral Irritation to Disease.—The discussion was opened by Dr. F. H. Bosworth, with a paper on "The True Relation of Diseased Conditions in the Upper Air-passages to the so-called Nasal Reflexes" (see p. 551).

Reflex Chorea.—DR. A. JACOBI discussed this phase of the subject. He said there was a large number of conditions in which chorea was present, but not always in the relation perhaps of a reflex. It was seen in various cerebral states as apoplexy, tumors in different parts, inflammation of the meninges, of the cerebral arteries, of the spinal cord, in sclerosis and softening of the brain or cord, in bilateral, sometimes unilateral paralysis, in epilepsy, etc. Chorea was also due to blood diseases—to rheumatism, anæmia, general exhaustion, and was sometimes found during the process of growth. It might be due to direct nerve influence, as fright, or neuritis, but other cases were of reflex nature in the restricted sense, and of this kind he would speak more particularly of nasal reflexes. Among other disorders of which it was a reflex, he named those pertaining to the digestive system, the sexual organs, one case on record was due to fissure of the anus, a number to cicatricial contraction, etc.

Nasal Reflex Chorea.—During the past ten years much attention had been given to diseases which were considered of reflex nasal origin. Among writers who had made mention of reflex nasal chorea were Seiler, McKenzie, Hack. The speaker had published a paper on the subject in 1886. He might say that for dozens of years he had seen many cases of the following description: a child, three, seven, or ten years of age, would show a number of symptoms which to most people did not appear those of any morbid condition, but simply the result of bad habits, for which it was punished. The parents were told that with puberty or sooner the child would get well, but instead it often grew worse. The symptoms consisted in local convulsive movements, as twitchings about the face, winking of the eye or eyes, horizontal and vertical frowning, twitchings of the angles of the mouth, shrugging of the shoulders, jerking of the arms, sometimes throwing about of the arm, hawking, slight cough, some nasal catarrh. This lasted a number of years, being better perhaps during the warmer months. On examination the nose would be found the seat of catarrh, the mucous membrane thickened, considerable discharge present, glands of the neck swollen, particularly near the angle of the jaw, sometimes there was ozæna, one or both nostrils more or less obstructed, sometimes deviation of the septum, in every case a good deal of pharyngeal catarrh, the tonsils hypertrophied and presenting a number of follicular cavities, in a number of cases a little œdema. Since publishing his paper in 1886 he had seen at least four cases of general chorea due to local conditions of this nature, and altogether he had seen at least a dozen cases in which all the members participated in the choreic movements, which had no other cause than chronic naso-pharyngeal catarrh, deviation of the septum, ozæna, hypertrophy of the tonsils, etc. This form of chorea differed from usual chorea in that the convulsive movements were not made worse by voluntary attempts to use the muscles.

Treatment.—These cases were likely to last a long time because not receiving proper treatment. The movements began in the face, therein differing from ordinary chorea, and were likely to be accompanied by mental dulness rather than by mental irritability as in the usual form. Local treatment was called for, but he had found milder measures than those often adopted of recent years suffice. Salt wash, with a small proportion of alum, would sometimes be sufficient; in some cases the galvano-cautery was called for. A cure could not be effected until the enlargement of the tonsil had been overcome. While he did not wish to exaggerate the importance of local reflexes in the causation of this or other diseases, yet attention should be called to them if we would effect a cure in certain cases.

Peripheral Irritation in its Relations to Diseases of the Womb and its Appendages.—DR. CHARLES CARROLL LEE said that in discussing this phase of the subject he would dismiss at once the more serious conditions, such as phthisis, which were said to sometimes follow disease of the uterus or its appendages, and call attention to well-marked neuroses or hystero-neuroses which best illustrated the subject. Omitting chorea, of which many cases were dependent on uterine and ovarian disease, he mentioned among peripheral irritations the following: 1. Disturbance of the surface temperature. 2. Neuralgia, such as spinal irritation, sciatica, migraine. 3. Special forms of headache, such as pressure upon the vertex while the rest of the head was unaffected. 4. Neuroses of the gastro-intestinal tract, including the familiar symptom of persistent vomiting of early pregnancy. 5. Neurotic conditions of the breasts, sometimes of a most aggravated character. 6. Irritation of the respiratory tract, producing not only occasional dyspnœa, but unmistakable attacks of asthma. 7. Hysterical affections of the joints and of organs of special sense, particularly the eye.

It was undoubtedly true that these illustrations of peripheral irritations, like all neuroses, were symptomatic of some more deeply seated disease elsewhere, and only by combining proper treatment there with improvement of the general health could we expect success. It was a striking clinical fact that mal-conditions of the uterus exercised far more influence in this direction than did diseases of the ovaries and tubes, however pronounced the latter might be. Treat the ovarian condition as thoroughly as was possible, yet the neurotic complication would almost surely persist until the accompanying disease of the womb had disappeared. For neurotic conditions ablation of the uterine appendages was not only useless, but often left the patient worse than she was before. Yet it was true that in pyosalpinx and extensive ovarian degeneration these organs should be removed.

The Relation of Peripheral Irritation to Disease Considered Therapeutically.—DR. SIMON BARUCH read the paper. The chief aim in therapeutic endeavor must be at the source of irritation. The case which removed his scepticism with regard to nasal reflexes in disease occurred in a boy aged sixteen, who had definitely marked epileptic attacks. He discovered an enchondroma occluding the nostril, and on removing it the epileptic attacks disappeared, the boy having only one attack subsequently. This was four years ago, and bromides were ceased seven months ago. He regarded four years' immunity from attacks as proof of cure. In migraine, asthma, neuralgia, and some other conditions, one should not overlook a possible source of the trouble in the nose. Here cocaine was of diagnostic value. Operations on the nose were not so simple as some specialists had taught, for in this city two serious results had followed a skilfully executed surgical procedure on the nasal structures, in one death finally taking place after severe hemorrhage.

Nine years ago he was subject to attacks of migraine which caused him a great deal of suffering. He went to Dr. Derby, who ordered glasses for double myopic astigmatism, which not only gave perfect vision (which other glasses had failed to do), but also caused complete disappearance of migraine. He approved, however, of Dr.

Roosa's censure of those who were practising mutilations of the eye for all conceivable troubles.

Unless subjective symptoms or lesions pointed directly to the sexual organs, the physician should be careful not to turn his patient's thoughts in this direction. He believed that removal of the tubes and ovaries except for well defined pathological changes was never called for. Cases of epilepsy and other reflexes had had their origin in scars, in gastro-intestinal disturbance, etc., and had been cured by treatment of such local conditions.

It appeared, then, that peripheral irritations as the cause of disease had been well established; that they should be looked for when other causes were not apparent; that harmless measures should be tried before resorting to mutilations.

Peripheral Irritation from Dental Causes.—Dr. Meyer L. Rhein read a paper on this phase of the subject, which he thought had received too little attention except in dental societies. One case with attacks strongly resembling those of epilepsy due to dental disease was cited in which the patient allowed nine years to pass before getting up sufficient courage to submit to treatment. There were numerous cases of visceral disturbance, neuralgias, even tetanus, etc., due to dental irritation. In fact this form of peripheral irritation ranked second to no other in the production of disease, especially those relating to the nervous system—neuralgias, chorea, insanity. He thought inflammations in the nose travelling downward not infrequently caused inflammation of the peridental mucous membrane. Two of the most common causes of dental irritation, and two which were easily recognizable, were exposed pulps in the teeth and alveolar abscess. It had been commonly advised to at once have the teeth extracted in such cases, whereas it was only in exceptional ones that the skilful dentist could not restore the parts to a healthful condition. The value of the teeth in the preservation of a normal state of the alimentary tract had been too much underrated in medical works.

Old Teachings Under a New Guise.—Dr. R. W. Amidon quoted some recent writers, particularly in France, who had cured headache, migraine, and various conditions by applications of cocaine, cautery, and other measures to the nose or other parts, and asked whether we had here anything really new. Further quotations from writers of forty years ago showed that the same remedies had been employed at that date and before under the name errhines, etc. For instance, Dr. George B. Wood had written of errhines: "By their stimulation of the [Schneiderian] membrane they sometimes prove useful in defective secretion of the nasal mucus, or unhealthy dryness of the membrane in chronic inflammation of the same, and in paralysis of the sense of smell, and of the soft palate. By depletion they tend to relieve inflammatory conditions of the neighboring parts, as of the antra, the frontal sinuses, the eustachian tube, the ears, eyes, face, and scalp; their revulsive influence is useful in the same inflammatory affections, and also in neuralgia of different parts of the face and scalp. Obstinate chronic ophthalmia, excessive sensibility of the retina, amaurosis, rheumatic conditions of the eye, frontal and facial neuralgia, earache, chronic otitis and deafness, obstinate headaches, and even chronic inflammation of the brain or its meninges are complaints which offer indications for the use of these medicines. In reference to their excitant impression on the cerebral centres, they are used to obviate faintness or syncope, or restore suspended respiration, to compose irregularities of respiration of a purely nervous character. Suspending and moderating epileptic paroxysms, etc." Among such remedies were mentioned aromatic powders, tobacco, veratrum album, turpeth mineral, etc. Dr. Amidon thought here was an important therapeutic field which had been too much neglected. He testified also to the importance of restoring the general health.

Dr. O. B. Douglas expressed his appreciation of the value of the two meetings devoted to the discussion of peripheral irritation in relation to disease, and Dr. A. Jacobi said that while he had committed himself to the view that chorea was sometimes thus caused, yet we should be extremely cautious in attributing central disease to such an origin. It was easy to make a mistake in diagnosis. For instance, for a number of years the profession was erroneously led by the statements of an illustrious man or two to look for sexual irritation as a cause of central disease, particularly phymosis as a cause of infantile paralysis. Yet Dr. Jacobi had sought twenty years for proof of this view, and had never found a case, and he knew now that he never would find one.

Transferred Irritations.—Dr. M. A. Starr called attention to facts having an important bearing on this subject contained in a paper written by Dr. Dana some years ago, on so-called reflex pains, or transferred pains. He showed that painful or disturbing irritations in a given organ might be carried by the sympathetic system to the spinal cord, there produce an irritation which was carried to the brain, and the brain, being accustomed to receive from that part of the cord, irritations or sensations from other parts of the body, might wrongly refer the disease or pain to this part. In this way gastro intestinal irritation might excite pain in the shoulder, and pain in a stump be referred to the amputated hand, etc.

Where are those Higher Centres?—Dr. Quimby, in referring to the higher centres spoken of in Dr. Starr's paper read at the previous meeting, wanted to know what and where they were.

Dr. Starr said it was easier to ask a question than to answer it, but he might reply that schemes of development of the nervous system, especially that put forth by Hughlings Jackson, implied a series of centres, one above another, and the highest in the series which had yet been accepted were the motor centres in the cortex. Hughlings Jackson stated that there still higher ones, and located them in the frontal lobes.

Dr. Quimby said he did not question the existence of such centres, but he doubted whether it was weakening of the higher centres and their loss of control over the lower ones which caused explosions of the latter, as suggested by Dr. Starr. The explosion might be due rather to too great a strain placed upon the lower centres, as when a man's temper gave way while the higher restraining centres might not yet have been exhausted.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

Ninety-second Annual Session, held at the Hall of the Faculty, Baltimore, Md., April 22, 23, 24, and 25, 1890.

Dr. Aaron Fredenwald, President, in the Chair.

First Day, Tuesday, April 22d.

Address of the President.—The session was called to order at 12.30 P.M. After the reading of the minutes of the last meeting by the Secretary, the President delivered his address.

The Modern Hospital.—This subject had been suggested by contemplating the significance of the two new hospitals which had been completed in this city in the past year. The Johns Hopkins Hospital was opened on May 7, 1889, and the new City Hospital on December 23, 1889—the former the consummation of a most munificent foundation, the latter called into being by a religious order. The modern hospital should offer bountifully all that is made possible by an advanced science and by a refined humanity.

The origin of the hospital is remote and far from simple. It did not emanate from any single civilization. Many nations and ages contributed to its present development. The origin of the hospital has been traced as far back as the temple of Æsculapius at Titanus.

1134 B.C. The oldest Buddhist accounts of hospitals reach to the middle of the third century B.C. The Spaniards found on their arrival in Mexico that the Aztec civilization had amply provided for the sick and disabled in hospitals. These data show that hospitals had long been considered a public necessity. Besides the hospitals called Hôtels Dieu, established in France, the rage of leprosy, which continued up to the fifteenth century, was a potent factor in promoting the growth of hospitals. In England the first hospital was established by Lanfranc, Archbishop of Canterbury, in 1070, and in Germany Berlin was the first city to open hospitals, about the same date. The famous hospital at Milan, with a capacity of over two thousand patients, was opened in 1456, and is still used. Military hospitals were first built in the sixteenth century, when Ambrose Paré established a hospital during the siege of Metz. The English did not have military hospitals until later, because it cost more to cure a soldier than to levy a new recruit. In North America Quebec is said to have had the first hospital, in 1639. In 1658 a hospital was organized on Manhattan Island. To Benjamin Franklin and Dr. Thomas Bond is credited the original of the present Pennsylvania Hospital. In reviewing the history of hospitals, it is seen that they are of no recent origin, but while formerly they were intended for the poor, the needy, the debilitated, and those without means, now, as is well known, there are many conditions in which a patient can be better provided for in a hospital than in his own home. Before closing the story of the hospital and its advantages, combined with the skill of the physician, it should not be forgotten to be mentioned the efficient, intelligent, and faithful nurse, to whose untiring devotion good results are so often due.

SECOND DAY, WEDNESDAY, APRIL 23D.

Abortion and its Effects, the subject of the Annual Oration, was delivered by Professor Joseph Taber Johnson, Ph.D., M.D., of the University of Georgetown.

All agree upon the importance and wickedness and frequency of abortion. It is steadily on the increase. Questions of drainage, sewage, quarantine, vaccination, and antiseptics are all important, but it is undoubtedly true that by the unnecessary and intentional destruction of the human fœtus more lives are lost than are saved by all these agencies combined. Abortion occurs once to every five labors, and ninety per cent. of all married women have at least one miscarriage during their child-bearing life. Violent and premature expulsion of the products of conception occurs so frequently that State legislation has been attracted to it, and in Massachusetts it is said that the native American stock in that State is dying out, the increase in the population being principally among the foreign population. One hundred years ago it was rare to see families of less than six children, and frequently there were ten; now it is rare to find as many as three, and often only one or none at all. Cultured Boston, the proud city of the Puritans, has become a Roman Catholic Irish city, rejoicing in a mayor with the classic name of O'Brien. Notwithstanding the endeavor by the American Medical Association and some writers in the distribution of "advice to mothers," the practice of abortion is not only not decreasing but is increasing each year. The difficulty of conviction for producing abortion is shown in the statement of the Attorney-General of Massachusetts, that of thirty-two arrests and trials of abortionists in that State, in a period of eight years, not a single conviction resulted, and this fact is equally true in Germany, a country otherwise very strict in the execution of its laws. The small risks that abortionists run in being convicted, and their large gains, all increase the frequency of abortion. Physicians are partly to blame for this state of affairs. They should endeavor to get proper legislation to punish abortionists, and even the women themselves who permit it—women, indeed, who would shrink from any other crime. The luxuries of life and the expense of maintaining a large family should not be considered as excuses. The fœtus is as much alive before quickening as afterward, and the crime is equal at any time after conception. As to the effects on the woman, it is well known that miscarriage is more dangerous to the woman than labor at full term. It is not too much to say that two-thirds of the work of the gynecologist finds its chief cause in this evil. Much good can be done by the honest physician in preventing these dangers too frequent.

SECTION ON SURGERY.

CHAS. G. W. MCGILL, M.D., CHAIRMAN.

Hydatid Cyst of the Liver (Suppuration); Operation and Recovery.—DR. C. F. BEVAN read a paper on the above subject, and presented the man cured. It was an unusual case in this country; although on looking up the literature he had found more cases than he had expected. The diagnosis was not difficult after the abscess was opened.

DR. J. W. CHAMBERS then related a series of cases of head injury.

Operation for Hæmorrhoids.—This was the subject of a paper by DR. S. T. EARLE. In the discussion which followed, DR. WM. H. WELCH, in referring to Dr. Bevan's paper, said he had seen about half a dozen cases of hydatid cyst of the liver in this country. The books give the impression that the disease is of every-day occurrence. It does occur. He had found it in a number of pigs, and in three instances he traced the disease and found that two of the pigs got it in this region. It comes from dogs. He had examined the intestines of a large number of dogs, but had not found the tænia echinococcus. This is not wonderful, for it is very minute. Most of those found are when the dog has been fed for it. The two points in diagnosis are that it is possible to make a diagnosis by the microscopical examination of the fluid withdrawn, containing the membranes and characteristic hooklets. Also, it is possible to arrive at a very probable diagnosis by a chemical examination of the fluids, which usually contain no albumen.

SECTION ON PRACTICE OF MEDICINE.

GEORGE J. PRESTON, M.D., CHAIRMAN.

The Nature and Treatment of Hysterical Paralysis.—THE CHAIRMAN spoke on the above subject. Hysterical paralysis is one of the most prominent and characteristic members of that group of symptoms to which has been applied the general term hysteria. The profession has been slow to accord this disease its proper place. The patient's relatives express indignation at the term. From a philological point of view the term is incorrect. Hysteria is the purest type of the functional disease, although in the eyes of the laity it is organic. We do not understand hysteria because we do not understand the intimate relations and working of the brain, and have to fall back on theory in our attempts to explain results. However, experimental physiology and pathological records in the light of this work have given us so many indisputable facts and suggestions that we may say we have a good working theory. Hysterical paralysis is of cortical origin, but the cortical motor cells are not affected. The trouble is obscure. The cause of hysteria may be bad training in childhood, over-indulgence, undue excitement, sudden fright, and such like conditions; also any lowering of the general nutrition. The pathogenesis of hysterical paralysis, according to the theory proposed, might be expressed thus: Certain abnormal stimuli, or usual stimuli acting to an extraordinary degree, produce in the higher centres a condition of exhaustion such that these higher centres are no longer able to stimulate the lower or motor centres to a degree sufficient to produce a discharge. Paraplegia is the most common form of hysterical paralysis, but hemiplegia is not uncommon, particularly following marked hystero-epilepsy. It may be of all grades;

the differential diagnosis is not easy, and this has led to sad mistakes in prognosis. The treatment requires tact and patience.

SECTION ON OBSTETRICS AND GYNECOLOGY.

B. B. Browne, M.D., Chairman.

The Removal of Submucous and Intra-uterine Fibroid Tumors by Enucleation and Traction, with Report of Ten Cases, was the subject of a paper read by The Chairman. After relating the methods heretofore in use, and describing at length the ten cases, he drew the following conclusions: 1. By traction and enucleation we get the benefit of normal uterine expulsive power. 2. We do not incur the risk of amputating a portion of the uterus, or of cutting off a portion of the tumor and leaving it in the cavity. 3. We leave a clean intra-uterine surface. 4. We have a perfect means of diagnosis between a projecting fibroid tumor and inversion of the uterus.

Fibroid Tumors Complicating Pregnancy.—Dr. R. M. Hall read a paper on this subject. There are different kinds of fibroid tumors. Out of 74 in the non-pregnant woman 4 were in the cervix. Myomata form no obstacle to pregnancy. The connection between sterility and the presence of fibromata is very striking. Fibroids are more common in married women. Of 1,634 women with fibroids, 1,192 were married and 442 single, or about three to one. Fibroids are common in the colored race. Almost all uterine tumors in the colored woman, not carcinomata, are fibroids. Fibroids are frequent among sterile women. Of 1,554 married women with fibroids, 476 were sterile, or 1 to 3.05.

A Double Monster, belonging to the class of terata katadidyma of the kind dicranus and diprosopus. Dr. L. E. Neale exhibited this specimen, which had been presented by Dr. George A. Fleming. It was from a multipara. Dr. Fleming had made digital examination, and, feeling between the two heads, had very naturally diagnosed a breech presentation. The child was born, and the two heads appeared, revealing the true condition. It is of interest to note that both heads cried at once after birth. It lived a few minutes, then gasped and died. Dr. Neale also exhibited a case of acardia and acephalus occurring in his own practice.

In the discussion which followed Dr. B. B. Browne, in referring to a case of failure in Cæsarean section, referred to by Dr. Hall, said that the idea was to perform the section, but as the pulsation in the cord had ceased such a thing was out of the question. Still, it was well to keep such cases in view, and be ready for the operation to be done at any time.

Dr. R. M. Hall referred to a case of a single woman, a primipara, who gave birth at the seventh to eighth month to a monster with the cleavage from below. When he reached the house it was born. The specimen was examined by Dr. Councelman, who found two cords and two membranes.

Dr. L. E. Neale had a case which he was not able to exhibit. A colored woman gave birth to her first child, whose upper extremities were much like the flippers of an amphibious animal. She said she had been in the habit of going to the park and watching the sea-lions; but on further questioning her she said she did not go to see the sea-lions until in her fifth month, and if there is anything in the theory of maternal impressions, which Dr. Neale was inclined to doubt, the impression should be made in the first eight weeks to affect the fœtus. He had not much faith in maternal impressions.

Third Day, Thursday, April 24th.

SECTION ON MATERIA MEDICA AND CHEMISTRY.

C. H. Jones, M.D., Chairman.

Therapeutical Progress in 1889.—Dr. E. F. Cordell read a most excellent *résumé* of this subject. No great additions have been made to our therapeutical resources, but a careful weeding and selecting has been going on. Interest still centres in the antipyretics, analgesics, and hypnotics. To the former class exalgine is the most important addition. Pyrodine is another antipyretic which will probaby have a short life. Thalline is now rarely used. Sulphonal no longer attracts the attention it once did. Chloralamide does not satisfy the wants of the therapeutist. Liebreich denounces somnal. Amylene hydrate and urethan are mild hypnotics. In antiseptics we have a valuable addition in creoline. Hypnotism is a very powerful agent for good or evil. The treatment of ataxy by suspension has yielded results worthy of notice. The advantages of electricity as a therapeutic agent are often exaggerated. The Hyderabad Commission has brought in results remarkable, and that will hardly be accepted. Among the minor points to be noticed are the treatment of constipation by glycerine suppositories. The dangers of prescribing the alkaloid strychnia are such that it should always be ordered as a salt, which is much more soluble and safer.

In the discussion which followed, Dr. P. C. Williams spoke of the difficulties of finding a reliable hypnotic, especially in cases of hysteria. Sulphonal is slow and uncertain, and fails in hysterical cases, although it is good in mere wakefulness. He endorsed what was said about chloroform. Do not put a patient under it too gradually. The best inhaler is a cylinder. He gives chloroform chiefly in labor, and then uses it whether the heart is affected or not. Its use prevents unnecessary strain on a diseased heart.

Dr. J. D. Blake thought the danger of chloroform was at the beginning. The nervous system should become gradually accustomed to the chloroform.

Dr. C. H. Jones thought the Hyderabad Commission had shown nothing new in its investigations.

Dr. J. J. Chisolm has fought the battle for chloroform for twenty years. The Hyderabad Commission had sustained every point he had made.

Dr. A. K. Bond thought the pupil should be watched in chloroform anæsthesia. This was more important than the pulse or respiration.

Dr. Hiram Woods said there was no use in watching these signs. Some have a susceptible heart and will die anyhow.

Dr. I. E. Atkinson thought the skill of the anæsthetizer should be taken into account.

Dr. J. W. Chamber thought the amount and method of giving it made very little difference. Some die anyhow.

Dr. L. McLane Tiffany said neither chloroform nor ether was the best. The medical man should confine himself to neither, and use his judgment and discretion.

Dr. George H. Rohé thought the cases should be selected.

Dr. C. G. Hill gave chloroform at first and followed it up with ether.

This paper was further discussed by Drs. W. R. Monroe, J. H. Branham, J. E. Michael, and R. Winslow.

SECTION ON ANATOMY, PHYSIOLOGY, AND PATHOLOGY.

Herbert Harlan, M.D., Chairman.

A Résumé of the Literature on So-called Trophic Nerves was given by Dr. John C. Hemmeter. The smallest part of the material for this study came from physiological experiments, and the largest part from clinical observation. From these studies we conclude that the function and nutrition are but different phases of the same thing—the general metabolism of the body—hence all nerves are in some sense metabolic nerves. The nutritive processes are under constant regulative influence by the nervous system, but a proof for the existence of so-called trophic nerves, pure and simple, has not been furnished, except to a certain extent, in these specific nutritive processes occurring in muscles and glands. Most so-

called trophic disturbances can be explained by loss of vaso motor innervation.

FOURTH DAY, FRIDAY, APRIL 25TH.

SECTION ON PSYCHOLOGY AND MEDICAL JURISPRUDENCE.

JOHN S. CONRAD, M.D., CHAIRMAN.

Dr. Charles G. Hill read a paper on "Psychological Progress as Measured by the Advances in Cerebral Localization."

SECTION ON OPHTHALMOLOGY, OTOLOGY, AND LARYNGOSCOPY.

H. C. MCSHERRY, M.D., CHAIRMAN.

The Exclusion of Light is not Beneficial in the After-treatment of Cataract Patients.—DR. JULIAN J. CHISOLM, in a paper on this subject, gave his experience during the past four years in the treatment of cataract operations. His method of after-treatment, as is well known, is revolutionary to all experience in this direction. Instead of dark rooms, absolute quiet on their backs in bed, and all the bodily restraints which ophthalmic surgeons deem so necessary for the successfnl healing of the corneal wound, including the closing of both eyes under heavy compresses and bandages, Dr. Chisolm practises just the opposite. He does not put his patients after cataract operation into dark rooms; he does not treat them in bed; he does not bind up their eyes; he does not use any bodily restraints. He only closes up the eye he has operated upon by a strip of soft salicylated silk isinglass plaster, and then leaves the other eye open, so that the patient can see to walk about, to feed himself, and to make his own toilet at bedtime and when he gets up in the morning. The eye operated on can be daily inspected through the diaphanous adhesive plaster. By the fifth day the corneal wound has healed and the strip of adhesive plaster removed. He claims for this treatment better results than he ever got in previous years when he practised all the restraints in general use. His experience, which covers hundreds of cases, shows that eyes treated in lighted rooms escape much of the irritability which is found when the bandages are removed in the dark-room treatment. Since the operation without iridectomy has been reintroduced, Dr. Chisolm's extractions are by the newer method. In his hospital one hundred and fifty of these have been done with the most excellent results. Hernia of the iris very seldom occurs, and not more frequently than in the practice of the most skilful eye surgeons who still think the bed treatment and absolute quiet are essential items in the success of the operation. Dr. Chisolm has had thirty years' experience as an eye surgeon, and has performed upward of eighteen hundred cataract extractions, a much larger experience than any other surgeon in the United States. For twenty-five years he treated the patients in dark rooms under thick compresses. For the past four years he has practised just the opposite treatment, of closing only the eye operated upon, and using light rooms with no bed confinement, and without bodily restraints of any kind. His experience has proven to him that the new plan of after-treatment is by far the better one. Hence he makes war against what he deems the relics of a former bad surgery which should be abandoned, and should be if only for the needless annoyances which it inflicted upon over-docile patients.

Volunteer papers were then read by Dr. George H. Rohé, on "The Statistics of One Hundred Obstetrical Cases;" by Dr. A. K. Bond, on "The Lung Diseases of the Prevailing Influenza;" and by Dr. W. R. Monroe, on "The Use of Nitrogen in Therapeutics."

Officers Elected.—The following officers were elected for 1890-91: *President*—Dr. T. A. Ashby; *Vice-Presidents*—Drs. G. H. Rohé and J. McP. Scott, of Hagerstown, Md.; *Recording Secretary*—Dr. G. Lane Taneyhill; *Assistant Secretary*—Dr. Robert T. Wilson; *Reporting Secretary*—Dr. William C. Canfield; *Treasurer*—Dr. W. F. A. Kemp.

One hundred new members were elected.

Correspondence.

THE VALUE OF VITAL STATISTICS.

TO THE EDITOR OF THE MEDICAL RECORD

SIR: When by derangement of the conditions of life dissolution is induced in the individual body, the physician last in charge of the case is required to insert the "cause of death" in the printed form sent out by the State Bureau of Vital Statistics. For this service to the State no compensation to the attestant is announced, but the physician rendering it may at least mentally assume that in so far as he promotes the cause of science by such service, by so far will his reward be found in the general conclusions for the benefit of the whole people.

The value or usefulness of these reports to the State bureau and to the people at large, rests entirely upon their correctness and truthfulness. They are the premises which, true or false, correct or incorrect, determine the conclusion, making it a scientific truth or a deceptive fallacy. If they are false, all deductions therefrom are false; if they are incorrect, all conclusions from them are incorrect. The entire superstructure of the State bureau rests upon these individual reports, and, however elaborate and ornate it may be in whole or in part, stability and value is given to it only by the truth and correctness of the attesting physician.

It is a cause of no small disappointment, however, to find, at a glance into the death records of any part of the country, that the incompetency of many so-called physicians is there so flagrantly conspicuous as to destroy totally and at once all confidence in the utility of the measure as of any possible benefit to the public in general or to the profession in particular. In no way, perhaps, is the abhorrent ignorance of the incompetent physician more graphically demonstrated than in these death reports. There he exhibits not only his ignorance of the A B C of professional knowledge, of anatomy, physiology, and obstetrics, but also of scientific terms, of the diagnostic significance of symptoms, of discriminatory knowledge, etc., but there also is displayed his school-boy chirography, his original orthography, his innocence of the simplest rules of grammar, of the use or misuse of capital letters, of punctuation, etc. Let me demonstrate by submitting here a few of the "causes of death" taken from such death records, copied *verbatim et literatim*. "Paralysis," "Dropsey," "Old age," "Cancer of the Liver," "Consumption of the lungs," "Congestion of Liver with Heart Disease," "He got Choked with a Piece of Meat while Eating Dinner," "Old Age and General Braking Down of the system," "Apeoplexey Found Daed in Bed." "Irregular priesentation at birth," "From swallowing a brass button," "Cattarhal Inflamation of Throat and Glands of the head," "Inflamation of Lungs and Bowills," "Old Age, and injuries caused from a fall," "Paralysis and old age," and, by the way, the physician who reported this, in five out of nine deaths reported by him in three months has given "old age and paralysis" as the cause of death! "Ossification of the Cerebral Artereis," "Ossification of the Artereis of the base of the Brain," "Passiv Congestion of the brain caused by dillitation of the heart." These three were given as the cause of death by a physician who shows as great predilection for arterial degeneration at the base of the brain, even when no autopsy is held, as the other does for paralysis and old age.

What reliance can be given to deductions drawn from data like this? Is it possible to construct a scientific principle from material so incompetent? Is not the time of the State bureau worse than wasted, and its labor worse than idleness when engaged with such pseudodoxy?

In view of this whole matter, the recent abrogation of our one-year-old State law requiring preliminary education to the study of medicine looks like an inexcusable and overt act to block or turn backward the wheels of progress. The legislators who are responsible for that uncalled-for repeal may some day die of paresis, or of fatty degeneration of the brain, but, as they look over the shoulder of the attesting physician they must not complain if they see him inscribe as the cause of death, Ossification of the Heart, or Paralysis of His stummick.

J. D. KELLY, A.M., M.D.

LOWVILLE, N. Y.

CROSSING THE BORDER LINE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The free dispensary abuse is not the only one that needs correcting. Is it not enough that our ranks are full of physicians ever ready to gain popularity in unprofessional ways? Owing to this fact we and they lose sixty per cent. of our bills. The public view the practice of medicine as "missionary work" in which a physician is by lawful compulsion compelled to engage and make visits when called upon, and that he must wait a year for his money. I say this is the popular view, but there is one law they are pretty well posted upon, the exemption clause of debtors, and they are ever ready to creep out of paying their bills by changing physicians upon some trifling pretext.

Free dispensaries, established more to push into popularity a few men than to relieve suffering, are insignificant compared with what I am about to speak. Newspapers, both daily and weekly, secular and religious, and those published in the interests of arts, and groceries, have their medical columns for the purpose of enlightening the public upon the best methods of treating disease.

Nor is this all, we have paraded before us in the telegraphic press reports of our daily morning papers, for the benefit of the public and the "poorly educated" physicians in country practice, the treatment of an impending epidemic by some "eminent professor," as the public explain it, "at the head of the faculty in Z.," and one who confessedly has never seen a case of the disease. A press report of that kind is responsible for more lay prescribing than all the quacks in Christendom could accomplish, for the quacks are familiar with the use of aconite, quinine, antipyrine, bromides, and chloral; but no living man can measure the length, breadth, height, or depth of the drug-store sales of articles supposed to be good in an influenza, and sold to all who would purchase. If the dosage of these medicines was not familiar with the laity who bought, the gentlemanly proprietor or his clerks would kindly furnish the required directions.

Within the last few years a new system of abuse has been heaped upon the medical profession in the form of medical legislation. The very object at which it is aimed, the protection of the regular physician, has failed. Legislation on the practice of medicine has gone wild. A regular physician living near the border of States having these laws is in a quandary; an honored and respected citizen at home, if he crosses the border line to visit patients he becomes a criminal, an associate with drunkards, thieves, and other vagabonds, at the police court bar. All of this reads nice for those not "engaged in trades, but in scientific work." One writer whom I cannot recall says, "we should educate the public to believe that these practice laws are for their benefit, and not that of the profession." That is stuff, the laws were intended to protect the medical profession and the public alike, and they do not protect the public at all when the nearest physician is over the line in another State, and you cannot get him, owing to vile legislation. Legislative interference is not alone aimed at practice upon the human economy. In some States it is a criminal act for a person to practise veterinary medicine and surgery on his own horse unless a D.V.S.; to practise dentistry, unless a D.D.S.; to practise pharmacy unless he is an examined and passed pharmacist; and the latest "fad" is "the bill introduced into the Ohio legislature forbidding a physician from administering any medicine whatever to his patients except in case of emergency." After this bill is passed, I hope one will be introduced, forbidding physicians to practise at all. The object of this article is not to oppose decent legislative enactments against "empiricism," but as each State has a different law, the matter is in a pretty difficult snarl, and wants straightening out immediately by proper national legislation, for physicians have, as other citizens of the United States, interstate as well as State rights.

The physician of to-day needs not only the protecting influence of State law, but also interstate law. A regular physician has the right by virtue of his education and examination to practise medicine in the State in which he is examined, passed, and qualified. The State appoints the laws by which he becomes an M.D. Can that right be wrested from him by later laws. I reply, no. That right is a life-long constitutional right, and is so recognized by the United States Constitution. I doubt very much if the abridgment of that liberty can be constitutionally made in another State. If it can, one of the solutions of this problem must be an appeal to Congress, that the physician whose diploma is verified by a seal of the State Board of Health, or of the State Board of Examiners of the State in which he resides shall give him the liberty to practise in any State in the union without the necessity of passing a new examination. This allows the surgeon and the specialist the latitude they desire.

It's a very poor rule that works but one way, for specialists shall not practise in my vicinity, if I know it, while hailing from a different State, no matter what their standing, unless I have the same opportunity in theirs, except they qualify, by humbling themselves before a State Examining Board, and are duly licensed. JUSTICE.

OUTRAGEOUS QUESTIONS IN TAKING THE CENSUS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: "For a man's house is his castle" (*et domus sua cuique tutissimum refugium*), said the learned Coke, two or three hundred years ago. If the accounts, however, published in the New York *Sun* of May 7th and 10th, of the manner in which the census is to be taken be correct, our castles will afford very scanty protection to our *lares* and *penates*, and against the disclosure of much that is fraught with pain and sorrow in many homes. I refer especially to these questions, which must be truthfully answered under penalty of arrest and fine:

"Whether suffering from acute or chronic disease, with name of disease and length of time afflicted.

"Whether defective in mind, sight, hearing, or speech; or whether crippled, maimed, or deformed, with name of defect."

Now, we all know that in this State no court can compel a physician to disclose knowledge obtained by him in his professional capacity concerning the ailments of his patients. More than that, he is distinctly forbidden by the law to disclose such facts. And yet an army of men is empowered to exact information from every household in the land, in regard to maladies of such a distressing character as to shroud that household in an atmosphere of gloom. The fruit of inherited vice, cancer, scrofula, ovarian tumors, consumption, ataxia, Bright's disease, everything dire and dreadful, must be told to the enumerator, who is paid two cents for the account he gives of each person. Of the uselessness of such statistics, particularly as regards the first set of questions, I will say nothing.

Questions like these, if the answers be enforced, are a blow against the sanctity of our homes. And yet it is stated that the local superintendent of the census was making arrangements with the police department to ar-

rest any person who refused to answer the questions (including, of course, those I have quoted) of the census-taker. It seems to me a mistake that the first set of questions should find a place in the list. I do not believe any court of law would uphold enforcing an answer to them. It is certain, at least, that many wretched invalids will be made more so by being confronted in their distress by such an inquisition If these questions be correctly given, they are a stigma upon civilization and humanity. I cannot believe, however, that invalids can be obliged to state to any one, except whom they may elect, the nature of their maladies. Respectfully yours,

H. B. MILLARD, M.D.

NEW YORK, May 12, 1890.

SCIENCE AND COWARDICE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I suppose that it is among the laws of nature that there should always be some old fossils hanging to the wheels of progress that by their *vis inertia* stay the movements of scientists and prevent them, having once got started, from going "on and on forever."

I am among the old men now, and during the thirty years in which I have been actively engaged in the practice of medicine have seen the rise and fall of a whole army of hobbies. Some of these have been amusing, some productive of much evil, but from one and all of them the slow-going, painstaking "General Practitioner," whose name seldom appears in the MEDICAL RECORD and is not known outside his own narrow circle of friends, has been able to learn something; and by collating facts and rejecting fancies has done more to rear up our present medical science than he ever gets credit for.

As the astrologer gave us astronomy, and the alchemist chemistry, so the quack doctor, the homœopath, and the scientist with his one idea, have had their wheat sifted from the chaff by this old General Practitioner, who has chosen the good and refused the evil, until the question may very pertinently be asked, "Are we the old or the new school?" Twenty-five years ago, "ulceration of the cervix" was fashionable. Every woman with any self-respect had it, and I saw one which had been scientifically cauterized until all that could be called a cervix had been burnt off. Then about half the women having any uterine irritation had the cervix split—"incised," they called it; and then came the son of the splitter and sewed them all up, and I saw one enthusiast who, to be sure that he reached the seat of the trouble (and perhaps he builded wiser than he knew), sewed up a whole vulva. Now the women are to be spayed, and it only remains to carry out John Randolph's suggestion, and castrate the men, and the millennium will begin to dawn.

We don't hear so much of the "cockeye" and the "microcockeye" that my old English friend used to talk about, these having given place to the bacillus, who, if reports be true, is likely to distance all competitors. The frogs of Egypt "were nowhere" beside this fellow. Why didn't Moses think of him? They confined themselves to the beds, kneading-troughs, etc., but this evil beast is in our teeth, hair, and breath. He pollutes the girls' mouths and infects the honey on their lips, mustaches are tainted, and the terrible consequences of a contact between the two when owned by different individuals can better be imagined than described. We understand that the Boston girl interposes a piece of aseptic gauze at an opportune moment, and that the New York lover is constantly provided with a vial of a solution of mercuric bichloride, 1 to 2,000, which he applies freely to his mustache "before and after taking."

My personal interest in this bacillus is very great, especially as they have got him down so fine as to almost be able to bestow proper names on him, and as I have long entertained in my breast (I am not speaking poetically) a large family of consumptive bacilli, I am anxious to know what is to be done with us, as, if all the scientists say is true, our wife and children and friends ought to shut us up in a separate house and leave us to fight it out alone, as it is probable that some day some of my bacilli family may attack my other family, and in the language of the wild West, "get away" with us altogether. These bacilli have lived with me twenty-six years or more, and the most of that time I have lived with a wife and children, we all (bacilli and the others) living very harmoniously, and I know hosts of men and women who have been or are similarly affected. But if people can be convinced that we are dangerous neighbors, the question as to what is to be done with the sick is a very grave one. One plan which I have seen carried out among the Apaches is, I think, the most effectual of any that can be followed. When one of their number is sick he is put into a wagon and food and water carried to him. When he dies the house, body, and all are at once burned up. Some of the tribes I have met in Asia, when a person becomes very ill, put him in a mud house and seal it up close, and run away. We call people who do such things heathen, but in fact they are scientists of a high order, and have not learned that what they think is a demon is only a bacillus, and they are quite scientific in leaving his neighborhood.

In this civilized and Christian country, I have seen a father and mother left alone to nurse and bury children ill and dead of scarlet fever, or diphtheria, and the dread of contagion is becoming so widespread that we often see cases of simple fever shunned like a pestilence.

When cholera or yellow fever appears, how careful everyone is in the business world to avoid creating a panic.

How ill it becomes the profession, filled with the bravest and most self-sacrificing men, to say or do anything to terrorize weak-minded people who may have in their families persons the victims of pulmonary consumption. How much better to seek to inspire hearts with courage rather than fears that are well-nigh groundless.

The people soon begin to understand that doctors are saying that everything is "catching," and their selfishness needs no aid from science. The medical field has not yet become so barren of practical ideas that physicians who daily face death in the shape of yellow fever, small-pox, scarlet fever, and diphtheria, and pass by unharmed, should be spending their efforts to frighten mankind by the display of a scientific bug-a-boo.

HENRY K. PALMER, M.D.

TRINIDAD, COL.

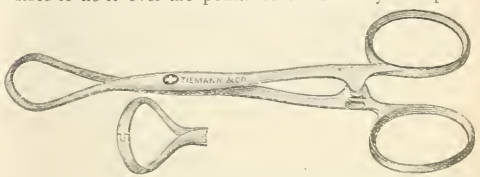
New Instruments.

A NEW CLAMP-FORCEPS, FOR SECURING AND LIGATING DEEP-SEATED ARTERIES.

BY H. W. BOONE, M.D.,

SURGEON TO ST. LUKE'S HOSPITAL, SHANGHAI, CHINA.

THE instrument here figured is intended for use in cases where the vessel is so deeply situated that it is impossible to tie it over the points of the ordinary forci-press-



ure forceps. The teeth of the instrument are rounded and they interlock so as to afford a firm grip, while they cannot tear the tissues. This is a great improvement on the teeth of the forceps in general use. It makes them excellent torsion forceps. The round head of the instrument makes it impossible to have any trouble in tying the

ligature, as the thread slips over the end of the forceps and settles into its proper place as soon as traction is made on the ends of the ligature. I have used the instrument for several years in both hospital and private practice. It has also had an extensive trial at the hands of other surgeons, and it has never failed to give entire satisfaction; thus effecting a saving of time and trouble in what has often been a most troublesome difficulty. Its form, with the French joint, makes it an easy matter to clean and keep it aseptic.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 4 to May 10, 1890.

BAXTER, JEDEDIAH H., Colonel and Chief Medical Purveyor, and WOODHULL, ALFRED A., Major and Surgeon. By direction of the Secretary of War, the above-named officers are detailed as delegates to represent the Medical Department of the Army at the annual meeting of the American Medical Association, to be held at Nashville, Tenn., May 20, 1890. The officers named will proceed to Nashville at such time as will enable them to reach there on or before May 20th. S. O. 107, par. 4, A. G. O., Washington, D. C., May 7, 1890.

VICKERY, RICHARD S., Major and Surgeon. By direction of the Secretary of War, granted leave of absence for twenty-one days. S. O. 103, par. 17, A. G. O., May 2, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending May 10, 1890.

GREEN, E. H., Passed Assistant Surgeon. Ordered to the Receiving Ship Dale, Washington Navy Yard.

WHITING, ROBERT, Passed Assistant Surgeon. Detached from Dale and to the Nautical School-ship St. Marys.

WHITAKER, H. W., Passed Assistant Surgeon. Detached from the St. Marys and resigned, to take effect November 5, 1890.

ROSS, J. W., Surgeon. Ordered to the Navy Yard, Pensacola, Fla.

FLINT, J. M., Surgeon. Appointed a delegate to represent the Medical Department of the Navy at the Pharmacopœia Convention to be held in Washington, D. C., May 7th.

DEAN, R. C., Medical Director, and WOOLVERTON, THERON, Medical Inspector. Appointed delegates to the American Medical Association Convention to be held at Nashville, Tenn., May 20, 1890.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 10, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	8	3
Scarlet fever	97	8
Cerebro-spinal meningitis	5	7
Measles	361	26
Diphtheria	90	22
Small-pox	0	0
Varicella	7	0
Cholera	0	0

The William F. Jenks Memorial Prize.—The second triennial prize of $450, under the deed of trust of Mrs. William F. Jenks, will be awarded to the author of the best essay on "The Symptomatology and Treatment of the Nervous Disorders following the Acute Infectious Diseases of Infancy and Childhood." The conditions annexed by the founder of this prize are, that the "prize or award must always be for some subject connected with obstetrics, or the diseases of women, or the diseases of children;" and that "the trustees under this deed for the time being can in their discretion, publish the successful essay, or any paper written upon any subject for which they may offer a reward, provided the income in their hands may, in their judgment, be sufficient for that purpose, and the essay or paper be considered by them worthy of publication. If published, the distribution of said essay shall be entirely under the control of said trustees. In case they do not publish the said essay or paper, it shall be the property of the College of Physicians of Philadelphia." The prize is open for competition to the whole world, but the essay must be the production of a single person. The essay, which must be written in the English language, or if in a foreign language, accompanied by an English translation, should be sent to the College of Physicians of Philadelphia, Pennsylvania, U. S. A., before January 1, 1892, addressed to Louis Starr, M.D., Chairman of the William F. Jenks Prize Committee. Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay. The committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year. The committee reserves the right not to make an award if no essay submitted is considered worthy of the prize.

Spare your Doctor.—The *Albany Press* says: "Never telephone or send for a doctor to come immediately, when you can just as well say: 'Any time this morning will do, or come as soon as it is convenient.' You may be causing others much more dangerously ill than yourself to wait unnecessarily. Furthermore, remember that every man needs one day in seven in which to rest. Spare your doctor his Sundays, if possible. No one should work three hundred and sixty-five days in the year, and consume part of the nights as well, and face the inclemency of all weathers, climates, and seasons, without having proper chance for rest and recuperation." Eminently sound doctrine. But even under these adverse circumstances the doctor would not complain if the patient did not so often forget the character of the services when the bill is sent. We should say spare your doctor, and also pay your doctor.

A Female Medical Anarchist.—One of the most brilliant, if not the most powerful, of the anarchists in New York, is said to be a woman medical practitioner, living on the east side of the town. She has been in practice about six years, and is reported by her admirers to have quite a large clientèle. Her admirers also say that she is very beautiful and a most eloquent orator.

Free Medical Attendance.—The Canton of Basle, Switzerland, has voted to provide free medical attendance and medicines to every person who may be ill and whose annual income is not in excess of $240. The State will pay the fee of the physician and the druggist's charges. They do some things in Switzerland better than we do, for here the well-to-do, equally with the poor, receive free medical treatment, if they ask for it, and the doctors get no pay for their trouble and seldom even thanks.

An Inconvenience in Pulling your own Teeth.—A dentist of Kingston, N. Y., recently pulled eight of his own teeth. He says he found it somewhat inconvenient, because he couldn't keep his head still.

Medical Record

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Original Articles.

MODERN METHODS OF EXAMINATION IN DISEASES OF THE STOMACH,

WITH A CONSIDERATION OF THEIR DIAGNOSTIC VALUE, ESPECIALLY IN GASTRIC CANCER, SIMPLE ULCER OF THE STOMACH, AND GASTRIC HYPERSECRETION.[1]

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As early as 1871 Leube called attention to the advantages to be derived from the use of the stomach-tube for diagnostic purposes in diseases of the stomach. The suggestion introduced the employment of new chemical and physical methods for determining, more exactly than hitherto had been possible, the condition of the gastric secretion, as well as the activity of other functions of the stomach, in its various functional and organic diseases. Since the above date the number of workers in this new field of investigation has gradually increased, until at the present time we are in possession of a very voluminous literature, chiefly German and French, on the subject. Many of the earlier observations, based upon faulty methods and technique, were conflicting and misleading; and yet, through their reappearance from time to time in literature, they continue to obscure the positive knowledge that has been gained on many points in this interesting subject. It is my desire in the present paper to describe, as concisely as possible, those methods which continued experience has shown to be the least liable to error, and to state the conclusions which may fairly be deduced from them. My personal experience embraces nearly three hundred analyses of the stomach-contents in the past year, besides very many made during a previous period. The basis of the chemical methods employed consists in the withdrawal of the stomach-contents by means of the tube. The soft rubber tube is now universally employed, and the form used by Ewald is convenient and practical. It is open at the tip, with one large fenestra, and several smaller ones in its lateral walls immediately above, all the openings having bevelled edges. Its length should be 75 ctm., and, for use in dilated stomachs, 95 ctm. Its introduction, as a rule, is very easily effected, and no further lubrication of the tube than that produced by the saliva is necessary. In very sensitive patients it will be found useful previously to spray the posterior pharyngeal wall with a two to four per cent. solution of cocaine. Where the presence of the tube in the stomach excites much retching, the previous ingestion of a small quantity of a similar solution is advised. In cases of suspected ulcer these measures should be employed, at least in the earlier introductions of the tube. Injury to the gastric mucous membrane by the tube itself I believe to be impossible. The gastric contents are withdrawn by the "expression" method or by aspiration. The former, which consists merely in strong voluntary contraction of the abdominal muscles, sometimes fails in its object, either through lack of intelligence on the part of the patient or through insufficient contraction of weak abdominal muscles. Before considering the subject of the chemical examination of the gastric contents during digestion it is necessary, particularly in view of a discussion later in this paper on gastric hypersecretion, to refer to investigations on the conditions found in the fasting normal stomach. It has long been believed that the secretory function of the stomach is latent during the fasting period. Rosin,[1] however, as the result of examinations made in 44 fasting patients, believes this view to be incorrect. In only 2 cases could no fluid be withdrawn; in 11 the fluid contained no free HCl; in 31 both free HCl and pepsin were present in the gastric juice, although often its digestive power was apparent only after artificially increasing the HCl percentage. The amount aspirated varied between 3 and 12 c.c. Ewald and Boaz,[2] on the other hand, confirm the experience of Tiedmann and Gmelin, that, under normal conditions, the fasting stomach contains no gastric juice, and suggests that Rosin's results can be explained by the irritation of the gastric mucous membrane by a foreign body, viz., the tube, acting all the more energetically from the stomach being empty.

The results of a series of examinations kindly made for me by Dr. Norrie, of New York, in my wards in St. Luke's Hospital, would seem to corroborate the correctness of this view. Ten patients presenting no symptoms of gastric disturbance were examined. The method of procedure consisted in carefully washing out the stomach in the evening and employing aspiration the following morning, the patient fasting in the interval. The time occupied in introducing the tube and aspiration varied from thirty to ninety seconds. In two cases no fluid could be aspirated; in four cases 1½ to 2 c.c. of a neutral fluid were withdrawn; in two cases a few drops of a faintly acid fluid, containing no free HCl were obtained; in one case 2 c.c. containing free HCl, and in one case 10 c.c. with free HCl were aspirated. In two cases of anæmia, in which 2 c.c. of a neutral fluid were withdrawn at the end of one minute, 15 and 25 c.c. respectively, of a fluid containing 0.11 per cent. and 0.09 per cent. of free HCl, were aspirated by permitting the tube to remain in the stomach three and five minutes.

Test meals of various kinds have been suggested by different authors for the purpose of best judging of the chemical character of the gastric secretion during digestion. Ewald's test[3] breakfast consists of the German semmel, which is nearly equivalent to our white bread roll, and one-third of a litre of water or weak tea without sugar or milk. Chemical analysis of the semmel demonstrates the presence of albumin, sugar, starch, fat, and salts. Leube and Riegel prefer a more ample meal, the test dinner consisting of four hundred grammes of water or meal soup, sixty grammes of scraped beef, and fifty grammes of white bread. The advantages of the former consist chiefly in its greater cleanliness and in there being less likelihood of the tube becoming plugged with the partially digested remnants of food. On the other hand, the test dinner undoubtedly excites a more vigorous action of the secretory function. As one or the other variety of meal is selected, it is important to bear in mind certain rules of procedure. The same amount of food, as nearly as possible, should always be given, and the stomach-contents withdrawn one hour after the test breakfast, and between the fourth and fifth hours after the test

[1] Read before the annual meeting of the Association of American Physicians held in Washington, May 13 to 15, 1890.

[1] Rosin: Deutsche med. Wochenschr., 1888, p. 996.
[2] Ewald and Boaz: Klinik der Verdauungskrankheiten, vol. ii., p. 15.
[3] Loc cit., p. 18.

dinner, intervals corresponding to the maximum activity of digestion after the respective meals. The basis of all practical conclusions from examinations of the gastric contents rests upon a clear recognition of the stages of the normal digestive process which follow the ingestion of one or the other of the test meals described. In repeated examinations Ewald[1] has found the chemical process after the test breakfast to be as follows (my own experience has been a similar one): After the first ten or fifteen minutes the gastric contents have an acid reaction, which is due to free acids, acid salts, or both. The free acid is lactic acid, and this predominates during thirty to forty five minutes, no reaction being obtained for free HCl by the usual methods. A stage succeeds when an appreciable amount of free HCl is present; the lactic acid gradually disappears and at the expiration of an hour the only free acid present is HCl. These stages are simply prolonged after a more abundant meal, free HCl only being recognizable at the end of the fourth or between the fourth and fifth hours. As Ewald remarks, we are not to understand by this that HCl is not secreted immediately after the entrance of food into the stomach, but rather that it exists in loose chemical combinations, and, moreover, that the presence of salts interferes with the sensitiveness of many of the reagents used for its detection. The latter only permit us to recognize the acid in a free state, and hence it is only at the height of digestion, when saturation of the albuminoids with free HCl has occurred and material for its further chemical combination is exhausted, that we may expect to find more than traces of it. The non-recognition of the difference between the *secretion* and *presence* of free HCl may be regarded as the source of many conflicting and erroneous conclusions. Any marked variation from the chemical sequence described above may be considered as probably pathological, and upon its demonstration is largely based the clinical value of chemical methods of examination. A certain system in the chemical examination of the stomach contents is desirable, and I shall therefore formulate one which I have found convenient in use.

The gastric contents being first filtered:

A. The reaction of the filtrate is determined;

B. Ten c.c. of the filtrate are employed to estimate quantitatively its absolute acidity;

C. A small portion of the filtrate is tested for free acids and acid salts;

D. A similar portion is tested for free HCl, and a quantitative analysis of the acid made if necessary;

E. Examination for lactic and other organic acids;

F. Examination for propepton and pepton.

By the above analyses we are able to determine the nature of the acidity of the filtrate, the degree of acidity, and finally the existence of peptonizing power. Further examinations consist in testing for rennet ferment, sugar, starch and its derivatives, which I believe to be seldom of any considerable practical value. A determination, however, of the actual peptic strength of the filtrate is often indicated, as we at present possess no method of estimating the pepton percentage in the gastric contents. I shall consider only those methods for determining the above points which I have found least liable to error.

B. The absolute acidity of the stomach contents is best determined by titration. Ten c.c. of the filtrate are titrated with a deci-normal solution of sodium hydrate, litmus-paper or phenophtallein[2] being used as the indicator. Under normal conditions one hour after a test breakfast, 10 c.c. of the filtrate require from 4 to 6.5 c.c. of the soda solution for neutralization;[3] values above or below this may be regarded as pathological. For the sake of simplicity these values are very generally expressed in percentages of the deci-normal soda solution; for example, by six per cent. acidity is meant that 10 c.c. of the filtered stomach contents require 6 c.c. of a deci-normal solution of sodium hydrate for neutralization. Such an acidity, if due to HCl alone, would represent 0.21 per cent. of this acid.[4] The range of free HCl in the gastric juice in normal digestion is very generally estimated at 0.15 to 0.2 per cent.

C. Leo's test[5] is a simple and convenient one for free acids and acid salts. A slip of blue litmus-paper is moistened with a drop of the filtrate and preserved for a comparison of color. To a few drops of the filtrate powdered calcium carbonate is added, and the reaction tested and compared with the original. If the litmus-paper is no longer reddened, the acidity of the filtrate is wholly due to free acids; if reddened, though less than before, the acidity is due partly to free acids and partly to acid salts.[6]

D. Examination for free HCl. In Günzburg's phloroglucin-vanillin test we possess one which is at once the most sensitive and the least liable to error of the many proposed from time to time for the detection of free HCl. Many of the color reagents employed for this purpose respond in varying degree to organic acids, and moreover, their sensitiveness to free HCl is impaired, and under certain conditions destroyed, by the presence of acid salts and albuminates in the gastric contents. These sources of error further explain many of the conflicting statements in regard to the character of the gastric secretion in disturbances of digestion. The phloroglucin vanillin solution (2 grm. phloroglucin, 1 grm. vanillin, 30 grm. absolute alcohol) in the presence of pure HCl becomes a brilliant cherry-red with the deposition of cherry-red crystals. In the presence of minute quantities of free HCl, it is necessary to heat the solution gently, preferably in a white porcelain dish, when, with evaporation of the water, a similar distinct cherry-red color appears in films or streaks at the point of contact of the reagent with the acid solution. In testing the filtrate only a drop or two of the reagent should be added to about one c.c. of the filtrate. The above reaction is not developed by organic acids, and from an extended experience I believe does not fail in the presence of albuminates or salts.

The employment of too great heat in testing may result in the development of a brown or yellowish-brown color from the combustion of organic substances, but never in that of the characteristic red color produced by free HCl. The sensitiveness of the test permits of the detection of free HCl in a dilution of 1 to 20,000.

Cahn and v. Mering's[7] method for the quantitative analysis of free HCl has been, and is still, extensively employed for this purpose. The process is a comparatively simple one. It consists in the removal of organic acids from the filtered stomach contents by distillation and ether and the titration of the watery residue. Honigmann and v. Noorden have shown,[8] however, that the acidity of this residue is not necessarily due to free HCl alone.

Sjoqvist's method demands the facilities of a laboratory.[9]

Leo[10] has very lately published a quantitative test which is apparently more exact and clinically practical. The presence of acid phosphates and lime salts, as well as organic acids, in the stomach contents is regarded. The method of procedure is as follows: 1. Remove the organic acids from the gastric filtrate by distillation and ether, and add sufficient water to the residue to restore

[1] Loc. cit., p. 21.

[2] Phenophtallein in alcoholic solution has the property of developing a brilliant carmine color in alkaline solutions and of remaining colorless in neutral and acid solutions.

[3] Ewald: l. c., p. 23.

[4] Each c.c. of the deci-normal solution of sodium hydrate contains .004 grm. of caustic soda, and will exactly neutralize .00364 grm. of absolute HCl. The test alkali is slowly added from a burette, with constant stirring, until a neutral reaction is shown by the indicator. The number of c.c. so used multiplied by .00364 expresses the percentage of HCl contained in the 10 c.c.

[5] Leo: Centralblatt f. d. med. Wissenschaft., No. 26, 1889.

[6] The reaction of acid phosphates is not affected by the presence of calcium carbonate.

[7] Cahn and v. Mering: Deutsches Arkiv f. klin. Med., Bd. 39, H. 3, 4; Kinnicutt: New York MEDICAL RECORD, vol. i., 1888, p. 598.

[8] Honigmann and v. Noorden: Zeitschr. f. klin. Med., Bd. 13, S. 87.

[9] Sjoqvist: Zeitschr. f. physiolog. Chemie. Bd. 13. Seite 1.

[10] Leo: loc. cit. S. 381–385.

the original volume; 2. Take 10 c.c. of this residue, add 5 c.c. of a concentrated solution of $CaCl_2$ and titrate with a deci-normal sodium hydrate solution until a faint red color appears, using phenolphthaleïn as the indicator; 3. Take a second convenient quantity, add several grammes of powdered calcium carbonate and filter. Take 10 c.c. of this filtrate, heat until the free carbonic acid is expelled, add 5 c.c. of concentrated $CaCl_2$ solution and titrate. The difference in the result of the two titrations will represent the free HCl value in 10 c.c. of the gastric fluid.[1]

E. Examination for organic acids. Uffelmann's test with an aqueous solution of the chloride of iron I believe to be reliable for the detection of lactic acid. The iron solution should be sufficiently weak to be almost colorless. This at once assumes a distinct yellow color in the presence of a *trace* of lactic acid. A few drops of the filtrate are added to the iron solution in a test tube, and to avoid the possibility of error I am in the habit of comparing this solution with a control iron solution. Uffelmann's carbolated chloride of iron test for lactic acid, which is so frequently used, is very unreliable, as it reacts to glucose and certain salts, especially the acid phosphates, which are present as a rule in the stomach contents, as well as to lactic acid.[2]

F. Examination for propepton and pepton. Since propepton is probably a transitional form of HCl pepsin digestion, its recognition in the gastric contents may be at times of practical value. At the maximum of normal gastric digestion only traces of it are found to exist, while pepton is present in abundance—in other words, its presence in large amounts at the height of digestion indicates a deficiency in this function. A reliable test for propepton consists in adding 2 or 3 c.c. of a saturated solution of chloride of sodium to an equal amount of the stomach filtrate, to which is added one or two drops of strong acetic acid. The propepton, if present, is precipitated. The presence of pepton is demonstrated by the so-called biuret reaction. Inasmuch as this is also developed by propepton, the latter must first be precipitated as above described and its filtrate then examined by the biuret test as follows: To 2 or 3 c.c. are added 1 c.c. of liquor potassæ and a few drops of a one per cent. solution of sulphate of copper. If pepton is present a purple-red color is developed. The chemical examination of the stomach contents by the methods described, with the exception of the quantitative analysis of HCl, is simple and practical and takes no longer time than an ordinary analysis and microscopic examination of the urine.

The chemical sequence and conditions indicated by the above-described methods in normal digestion, after the test meal, afford a basis for a recognition by the same methods, of perversions of the chemical process and the pathological conditions under which they occur They may be grouped, at least provisionally, as follows:

A. Free HCl demonstrable at the height of digestion, but apparently in diminished amount; organic acids present; peptonizing power present but diminished in degree.

B. Free HCl not demonstrable; organic acids present in abundance, usually in excess; peptonizing power sometimes present, sometimes absent.

C. Free HCl apparently increased in amount; organic acids present in small amount or absent; peptonizing power present and active.

[1] Leo's method for the estimation of the degree of acidity of a solution of HCl in the presence of acid phosphates is based on the fact that calcium carbonate is not decomposed by the latter at ordinary temperatures. Hence, provided the volatile and organic acids be removed, the loss of acidity of the gastric fluid after treatment with calcium carbonate would represent the amount due to HCl, if the presence of $CaCl_2$ in the fluid to be titrated did not determine the formation of a neutral phosphate containing calcium and thus necessitate a double equivalent of the sodium hydrate solution to combine with the chlorine thus liberated. However, the addition of an excess of $CaCl_2$ previous to each titration renders the conditions uniform and the results comparable.

[2] By treating the filtrate with ether, which absorbs any lactic acid present, and then testing a watery residue of the ethereal extract with this reagent the above source of error is eliminated.

The pathological conditions embraced in group *A* are chronic gastric catarrh, cachectic conditions produced by various diseases, certain neuroses with apparently depressed gastric innervation, pyrexia of greater or less degree.

B. Gastric cancer, chronic gastric catarrh of a severe type, atrophy of the gastric mucous membrane, amyloid degeneration of the same, toxic gastritis.

C. Simple ulcer of the stomach, secretory neuroses (exalted excitability of secretory nerves) primary and secondary.

The determination of the activity of other functions of the stomach than the purely chemical one is often of diagnostic value.

The absorptive power is best estimated by the test proposed by Penzoldt.[1] Two grains of iodide of potassium are administered by the mouth, preferably after a meal, in gelatine capsules (first carefully wiped to guard against any of the salt clinging to their outer surface) and the moment of the appearance of iodine in the saliva noted.[2] Under normal conditions iodine is detected after ten to fifteen minutes. If it appears only at the end of half an hour to an hour the absorptive power of the stomach may be regarded as diminished. It has been found to be defective in gastric catarrh, dilatation of the stomach, etc.

Several methods have been proposed for the estimation of the motor efficiency of the stomach. Of these I shall refer only to the one which I have found the least liable to error, viz., Klemperer's.[3] It consists in introducing 100 grm. of olive oil into the stomach by the tube and withdrawing what remains at the end of two hours. Oil not being absorbed by the stomach, the difference between the amount introduced and that withdrawn indicates the degree of motor efficiency. Under normal conditions the stomach discharges from 70 to 80 grm. into the duodenum in the above interval. I have not observed any clinical impracticability in this method. I have employed it in both hospital and private practice, and believe it to be the most exact of the various methods proposed. Without accepting the extreme view advanced, especially by Jaworski, that the propulsive function of the stomach is its chief one, any impairment of its motor power may be regarded as a serious symptom. Klemperer[4] believes that motor insufficiency is not infrequently the *first* symptom of gastric disease, which later develops secretory and anatomical anomalies. Its estimation is not only of much diagnostic value but also of importance in prognosis and therapeusis. In cases of hypersecretion, the preservation of motor efficiency implies the absence of ectasia and affords grounds for a more favorable prognosis. In gastric cancer, an efficient peristalsis compensates for a time at least the perversion of the secretory function. A fair nutrition is maintained by means of intestinal digestion.

It remains to describe the more purely physical methods employed in the examination of the stomach. A recognition of gastric ectasia is often possible only by artificial distention of the stomach with air. Frerichs introduced the method of evolving the gas in loco by the successive administration by the mouth of sodium bicarbonate (2–3 grm.) and tartaric acid (1–2 grm.) in solution. Runeberg[5] suggested the introduction of air by means of the ordinary hand bulb attached to the end of the stomach tube. Either method is efficient for the purpose. The latter permits of more exactly determining the amount of air necessary in the individual case, which varies very considerably; the possibility of exciting irritation of a sensitive mucous membrane by carbonic acid gas is moreover avoided. Distention of the stomach with air has sometimes enabled me to determine more exactly than was otherwise possible the site of a gastric tumor.

[1] Penzoldt and Faber: Berl. klin. Wochenschr., No. 21, 1882.

[2] Filter-paper is saturated with starch paste, dried, and the saliva ejected on it every five minutes. On the addition of strong nitric acid a bluish color is developed in the presence of iodine.

[3] Klemperer: Deutsche med. Wochenschr., No. 47, 1888.

[4] Klemperer: Verhandlungen des Congresses fur innere Medicin. viii. Congress. Wiesbaden, April, 1889., Seite 271–284.

[5] Runeberg: D. Arkiv f. klin. Med., Bd. 34, S. 460.

Piorry's and Penzoldt's[1] method of determining the lower boundary of the stomach, consists in the introduction of a large quantity of fluid by the tube. The lower line of dulness thus produced corresponds to the course of the greater curvature. The occasional absence of gas in the transverse colon may be a source of error in this method. An extension of the lower boundary of the stomach, below a line drawn horizontally through the anterior superior spinous processes of the ilium, may be regarded as indicating positive dilatation.

Gastrodiaphany, as it is designated by its inventor, Dr. Einhorn, of New York, consists in an illumination of the stomach from within, in a manner which permits at least of a recognition of its contours through the abdominal walls. An Edison's incandescent lamp is inserted into the tip of an ordinary soft rubber stomach-tube, the conductors being carried through the tube and attached to a storage-battery. A dark room is necessary for the examination. The practical use of this ingenious method thus far consists in demonstrating the size of the stomach.

Gastroscopy,[2] direct inspection of the gastric mucous membrane, introduced by Mikulicz, need only be mentioned to be condemned. The introduction of a tube of the size and stiffness necessary for this purpose, is painful and, in my judgment, unsafe.

The prescribed limits of the present paper permit me to consider critically the clinical value of modern methods of examination only in the diagnosis of gastric cancer, simple ulcer of the stomach, and the pathological condition known as gastric hypersecretion.

It is an interesting fact, which Ewald has referred to, that as early as 1842 Golding Bird,[3] of Guy's Hospital, concluded as the result of personal investigations, that in the progress of gastric cancer the secretion of HCl was gradually diminished, the percentage of organic acids increasing *pari passu*. The observation was forgotten, but, to-day, as the result of very numerous observations by many of the most distinguished clinicians in various parts of the world, its practical correctness has been corroborated. The secretion of free HCl undoubtedly occurs in many conditions where its presence cannot be demonstrated by the tests at present employed. Such a failure of the tests does not detract from their clinical value, however. Klemperer,[4] while admitting that free HCl is seldom present in the stomach contents in gastric cancer, doubts whether its secretion is even diminished. He believes that it is combined with organic bases. Such a combination undoubtedly occurs, and may be accepted as a partial explanation of the absence of free HCl. It is now generally conceded that gastric cancer *per se* is incapable of affecting the secretion of HCl, and by many the failure of tests to detect it in this disease is found in the existence of an associated gastritis and glandular atrophy of varying degree. Pathological lesions of this nature are present presumably only in a slight degree in the case of small and strictly localized neoplasms, and under such conditions we should expect to find the secretory function of the stomach but slightly impaired. A case corroborative of this view has been reported by Ewald.[5] In this case free HCl was present in the early examinations, and a sharply localized neoplasm was found on resection of the pylorus, the mucous membrane showing slight changes except in the immediate vicinity of the tumor. The number of published cases of gastric cancer in which free HCl has been demonstrable is exceedingly small, however. On the other hand, the number of cases in which its constant absence has been observed is correspondingly large. Of these I shall refer only to Riegel's,[6] 16 in number with 306 examinations, Rosenheim's, and to some personal ones.

In 274 analyses in 13 cases of Riegel's, free HCl was never detected. In his remaining 3 cases, a feeble HCl reaction was obtained only in the early examinations.

In 14 of Rosenheim's 16 cases,[7] no free HCl was demonstrable. In one its presence was transitory, in one hyperacidity was believed to exist. (The method used for the quantitative analysis in this case has since been found to be fallacious.)

In 8 cases under my personal observation with 4 autopsies, and in 1 under the care of Dr. Roosevelt with autopsy, with 132 analyses of the stomach contents, free HCl was demonstrable only in 2 cases. In 1 of these a trace was detected in 2 examinations out of 12, in the second a feeble HCl reaction was once obtained. In 3 of the cases not confirmed by autopsy, epigastric tumor existed, and repeated hæmatemesis had occurred. In the remaining case no tumor was recognizable, but during a period of two years there had been progressive loss of strength and flesh, and repeated hæmatemesis, vomiting, etc. The patient died of inanition several weeks after admission to the hospital. In 4 of the cases confirmed by autopsy no tumor was detected in repeated examinations during life. In 1 of these, a patient seventy-six years of age, there was an absence of all symptoms and signs referable to the stomach with the exception of complete anorexia and the failure of free HCl reaction to all tests. In the remaining case in which no free HCl was ever detected in 40 analyses of the stomach contents, always after test meals, and in which it was possible to observe the gradual diminution of the peptonizing power until the gastric filtrate was wholly devoid of peptic strength, the neoplasm was located at the pylorus. Very complete stenosis existed, however, and numerous sections of different portions of the mucous membrane, examined by Dr. Thacher, the pathologist of St. Luke's Hospital, showed the presence of a chronic gastritis with glandular atrophy. The anatomical changes varied greatly in degree; in some of the sections no tubules were recognizable, in others they were numerous; small cell infiltration and increase of connective-tissue was observed in all sections. There was no regularity in the distribution of the anatomical anomalies. The autopsy was made about six hours after death.

A localized neoplasm, causing pyloric stenosis, may be expected to excite ultimately a chronic gastritis with or without glandular atrophy. The following conclusions, from investigations up to the present time, seem justifiable:

The diminution or absence of free HCl in chronic gastritis, atrophy of the gastric mucous membrane, and certain other diseases previously mentioned, detracts from the positive value of this sign in the diagnosis of gastric cancer. It is rather to be considered of corroborative value in the presence of other symptoms and signs of the disease.

On the other hand, *the presence of free HCl in the stomach contents, in repeated examinations, in doubtful cases, is of the greatest diagnostic value, and points very certainly to the absence of cancer.*

Simple Ulcer of the Stomach.—The character of the gastric secretion in simple or round ulcer of the stomach has been the subject of numerous investigations. Riegel[8] has published the results obtained by him in 382 analyses of the gastric contents in 42 cases of this disease. In all the free HCl percentage at the height of digestion was found to be abnormally high. Values of 0.4 to 0.5 per cent. were frequently found. His experience leads him to conclude that hyperacidity is a constant factor in gastric ulcer; that, although it is not necessarily followed by ulcer, it may be regarded as a predisposing cause.

Rosenheim,[9] in 8 cases was able to demonstrate the presence of hyperacidity in only 2; in 4 cases the HCl percentage was within normal limits, in 2 it fell somewhat below. Very lately[10] Rosenheim has published 4

[1] Penzoldt: Die Magenerweiterung. Erlangen, 1877.
[2] Med. Monatsschrift, November, 1889; Wien. med. Woch., Jahrg. 33, S. 748.
[3] Golding Bird: London Medical Gazette, 1842, vol. ii., p. 391.
[4] Klemperer: Zeitschr. f. klin. Med., 1888, xiv., S. 147–170.
[5] Ewald: loc. cit., p. 192.
[6] Riegel: Zeitschr. f. klin. Med., 1887, xii., p. 426.
[7] Rosenheim: Berl. klin. Wochenschr., 1888, Nos. 51 and 52.
[8] Riegel: loc. cit., S. 434.
[9] Rosenheim: Deutsche med. Wochenschrift, No. 22, May 31st.
[10] Rosenheim: Zeitschr. f. klin. Medicin, January, 1890.

additional cases of ulcer complicated with cancer of the stomach. In all, free HCl was present in the stomach contents, in 2 hyperacidity existed. In the 3 cases in which the diagnosis was confirmed by autopsy, the HCl disappeared from five months to several weeks before death.

In 4 consecutive cases presenting characteristic symptoms of this disease (typical gastralgia, repeated hæmatemesis, etc., extending over a long period) personally observed during the past few months, free HCl was found in all the examinations, 31 in number, of the stomach contents after a test meal. Its percentage in all fell within nearly normal limits, 0.17 to 0.23 per cent. In one case previously observed, in which the autopsy revealed an ulcer the size of a twenty-five cent piece, lying partly within the pylorus and causing extreme stenosis both by hypertrophy of the immediately contiguous structures, and by adhesions of the pylorus to the under surface of the liver, hyperacidity was constantly present.

Observations by Cahn, v. Mering, Ritter, and many others also would indicate that hyperacidity is not a *constant* factor in simple ulcer. Ewald[1] suggests that Riegel's dictum should be modified as follows: "In gastric ulcer there is secreted a juice constantly containing free HCl and generally in excess."

The constant presence of free HCl, either in normal or increased amount, in simple ulcer of the stomach may justly be regarded as a sign of great clinical value in a differentiation between this lesion and gastric cancer. Especially is this the case in a differential diagnosis between ulcer of the pylorus and cancer occupying the same site. In the former instance the anatomical changes excited in the tissues immediately contiguous to the ulcer, and the not infrequent existence of adhesions, may give rise to an induration recognizable by palpation, and to pyloric stenosis of varying degree. In two cases of ulcer of the pylorus personally observed during the life of the patient, the diagnosis being confirmed by autopsy, a small tumor was easily recognizable and marked stenosis existed.

In cases of cicatricial stenosis from ulcer a tumor also may be present. It existed in three cases personally observed in which the diagnosis, confirmed by autopsy or surgical operation, was chiefly based upon the presence of free HCl in the stomach contents.

In conclusion, the presence of free HCl in the gastric contents in repeated examinations, in cases of the nature described above, *strongly points to the non-cancerous character of the lesion.*

Gastric Hyperacidity and Hypersecretion.—The term hyperacidity is commonly used by modern writers to denote an increase in the normal production of free HCl during the act of digestion; hypersecretion to indicate a periodic or continuous secretion of the gastric juice independently of the ingestion of food. To Reichmann belongs the credit of first demonstrating by exact methods the existence of secretory disturbances of this nature. His investigations have been supplemented and corroborated by those of Jaworski, van den Velden, Riegel, Klemperer, and others. Their conclusions, although differing somewhat in details, may be summarized briefly as follows: Aside from the association of hyperacidity with gastric ulcer, hyperacidity and hypersecretion apparently occur both as idiopathic neuroses of the secretory nerves of the stomach and as secondary affections in other neuroses. Hyperacidity frequently exists independently of hypersecretion; hypersecretion, on the other hand, is as a rule accompanied by hyperacidity. Hyperacidity and hypersecretion occur in both a periodic and a continuous form; in periodic hypersecretion the acidity often is not increased. Hypersecretion ultimately is very generally followed by atony of the muscular coat of the stomach (motor insufficiency) with all its attendant evils. Jaworski[2] believes these secretory disturbances to be of very common occurrence. He found hypersecretion in 121 out of 222 gastric cases examined, and in 115 of the 121 there was associated hyperacidity. Jaworski includes all cases under the head of hypersecretion in which more than 10 c.c. of gastric juice can be aspirated from the fasting stomach. Riegel's[1] investigations also indicate the frequent existence of hypersecretion. Ewald,[2] on the other hand, in 600 patients observed this condition only fifteen times. He states, however, that he is incompetent to speak authoritatively on the subject, as he has examined for hypersecretion exclusively in those cases presenting its most characteristic symptoms. My own experience, with similar limitations, is closely in accord with Ewald's. Inasmuch as the question of the condition of the fasting stomach is still *sub judice*, in order to avoid any possible error I have fixed as high a limit as 50 c.c. of gastric juice as a basis for a diagnosis of hypersecretion. I have been able to demonstrate it in three patients whose symptoms suggested its existence. Its early recognition is very desirable, as by appropriate treatment the sufferings of the patient can be greatly relieved and the affection itself possibly controlled. The history and symptoms of a patient are of assistance in a diagnosis of hypersecretion, but positive proof of its presence is furnished by modern methods of examination. Hyperacidity and hypersecretion have been observed in cases of melancholia, hysteria, neurasthenia, and in other neuroses; hyperacidity as a temporary symptom in the gastric crises of tabes dorsalis, and as a transient symptom accompanying or following the passage of gall-stones and renal calculi. The symptoms are of a nature to be expected from an irritation of the gastric mucous membrane by a hyperacid secretion. They are epigastric sensitiveness and pain, pyrosis, and eructations; if the hypersecretion has been of long standing the symptoms and signs of gastric ectasia are superadded. The tongue is usually clean, the appetite is rarely diminished and is frequently increased; there is often excessive thirst. The pain, which usually begins at the height of digestion and continues during the fasting period, is frequently very acute and paroxysmal, the patient often crying out in the attacks, and assuming a sitting posture with the body bent forward. Relief is often obtained by the ingestion of warm fluids, particularly milk, but not infrequently only by the use of opium. The digestion of carbo-hydrates is delayed, while that of the albuminoids is rapidly effected. In the early stages the general nutrition is usually unimpaired, though anæmia is often present. Suggestive as the above symptoms are of hypersecretion, a positive diagnosis is only possible by the following method of examination: The stomach should be washed out, preferably in the evening, and the tube again introduced the following morning, the patient fasting in the interval, and expression or aspiration employed. If hypersecretion is present, a clear or more or less turbid fluid, colorless, or more commonly of a greenish or greenish-blue color, sour smelling, of a strongly acid reaction, and varying in amount from 50 to 1,000 c.c., is withdrawn. This fluid, in the absence of any fragments of food, is devoid of organic acids and pepton, usually contains free HCl in larger amount than normal gastric juice, and digests coagulated albumin rapidly—in brief, it is hyperacid gastric juice. The following case furnishes a typical example of this disease.

E. H——, aged fifty-eight, dressmaker, admitted to St. Luke's Hospital, October 7, 1889. *Previous history:* Good health until four years ago. Digestive disturbances since. For the past eighteen months epigastric pain and distress, appearing about four hours after meals, relieved at first by voluntary vomiting. The vomited matter rarely contained food, was copious, acid, and had the appearance of dirty water. For the past eight months the attacks of pain have been very acute, and unrelieved by vomiting, and have occurred as frequently during the night as during the day. Partial relief was obtained by the frequent ingestion of large quantities of warm water or milk, sometimes by lying on the stomach, frequently

[1] Ewald: Loc. cit., p. 232.
[2] Jaworski: Wiener med. Wochenschr., Nos. 49-52, 1886.

[1] Riegel: Zeitschr. f. klin. Med., 1887, Bd. xii., S. 426.
[2] Ewald: Loc. cit., p. 423.

only by the use of some medicine the nature of which is unknown. The patient was incapacitated for work.

Condition on Admission.—The above described symptoms were present. Physical examination of the heart, lungs, and liver was negative. The spleen was slightly enlarged. The examination of the urine was negative. Examination of the blood: red blood corpuscles, 4,131,250 per cmm.; hæmoglobin percentage, 44. The stomach was dilated; the lower boundary, both by inflation and by the water test, was recognizable on a level with a horizontal line one and a half inch below the umbilicus. Its absorptive power, determined by the iodine test, was nearly normal. Its motor power was diminished — two hours after the introduction of 100 c.c. of olive oil 60 c.c. were recovered. One hundred and thirty c.c. of a slightly turbid, greenish, highly acid fluid were withdrawn by aspiration from the stomach in the morning, careful lavage having been employed the previous evening, the patient fasting in the interval. The fluid contained no organic acids, acid salts, or pepton; it digested coagulated albumin rapidly; free HCl (0.23 per cent.) was present. During a period ending January 1st, thirteen examinations of the contents of the fasting stomach were made with very similar results. The amount of gastric juice withdrawn varied from 75 to 130 c.c. on different occasions; the percentage of free HCl was always above normal. Daily lavage and large doses of sodium bicarbonate, given systematically after meals, and repeated in two hours, gradually procured entire immunity from the attacks of pain, and the patient gained slowly in weight and strength. The degree of hypersecretion varied but slightly, however. In the latter part of January the patient suffered from a very severe attack of zoster. From this date until her discharge from the hospital, on March 25th, 26 examinations were made; 13 of the contents of the fasting stomach, 13 of its contents after a test meal. In 7 of the former the fluid gave a neutral or alkaline reaction, in 6 it was slightly acid, containing 0.06 to 0.08 per cent. of free HCl. The amount of fluid obtainable by aspiration varied from 48 c.c. to (on one occasion) 115 c.c. The patient continued to be free from all epigastric pain and distress, and was discharged, having gained nine pounds in weight. All medication was dispensed with during the last month of residence in hospital. Daily lavage was, however, employed. The percentage of free HCl in the gastric contents, after a test meal, from March 1st, was never above normal. The final disappearance of hyperacidity nearly coincidently with the development of the zoster, the medication in no respect being changed, is an interesting fact.

In a second case of hypersecretion with gastric ectasia, under my observation, the sufferings of the patient, which were very acute, were temporarily relieved by a similar method of treatment. The patient left the hospital too soon to judge of its further results. A third case is still under observation. The patients whose cases have been referred to were all of a distinctly neurotic temperament. Modern methods of investigation in diseases of the stomach are fairly entitled to the credit of a demonstration of a pathological condition which previously had only been suspected.

The purpose of the present paper has been fulfilled if the most exact and practical of these methods have been clearly described and their true value for diagnostic purposes indicated. Their value in suggesting a more exact therapeusis has only been incidentally referred to.

In conclusion, I desire to express my indebtedness to the gentlemen of the house staff of St. Luke's Hospital, Drs. Van Horne Norrie, Colman Cutler, and Levi Warner, and to Dr. Robert Devlin, of New York, for their efficient assistance in my investigations.

The Dr. J. M. Da Costa Association is the name of a new society organized by the Philadelphia graduates of the class of 1890 of the Jefferson Medical College.

TUMOR OF THE BRAIN (THALAMUS AND INTERNAL CAPSULE).

By ROBERT T. EDES, M.D.,

WASHINGTON, D. C.

Dr. G——, aged forty-two, who had led from boyhood a very active and responsible life, and who had been for nineteen years carrying on a laborious practice in the western part of Maryland, came to Washington, in November last, for advice and treatment.

The following account is condensed from his letters to his friend Dr. W. K. Butler, of Washington, and subsequent examinations by Dr. Butler, Dr. D. W. Prentiss, and myself.

He had usually been healthy, with the exception of typho-malaria in 1867, and of sick headaches. There was no constitutional infection of any kind. He used no stimulants or tobacco.

In the spring of 1889 he "went to pieces fast," had an attack of nearly complete suppression of the urine, with albuminuria and swelling of the legs, which symptoms, with the exception of the first, apparently lasted for some time, but disappeared during the summer.

The exact date at which the symptoms connected with his last illness began cannot be exactly determined, and was perhaps unknown even to himself.

It was probably, however, in June. At this time his right side began to "feel asleep." He describes it afterward as "heavy as lead, with loss of feeling almost general from crown of head to sole of foot;" his "face felt like a piece of leather."

The right side was worse when the weather was cold, and was relieved by heat. He found "no feeling or contraction of muscles" on the affected side from magneto-electricity, although very marked on the left.

He speaks elsewhere of "numbness all over the body, but worse on the right;" but also, again, of "hyperæsthesia of the rest of the body," or "nervous tension." These feelings are aggravated by brain-work or excitement, and are often so trying as almost to prevent him from carrying on a conversation, but when quiet or alone are less annoying.

He suffered from headache and "dulness of the mental faculties," and an indescribable feeling of helplessness; but it is fair to say that his letters during this period are clear and correct in spelling, grammar, and choice of words, and, with the exception of frequent expressions of fatigue, might have applied to another person. The handwriting is clear, even, and without tremor.

No choreic movements were at any time noticed. There was at times forgetfulness of the names of persons and things, but apparently not sufficient to be called amnesic aphasia of a typical kind.

Some weakness of the right side appeared, which was more noticeable to himself than to any one else.

Diplopia, or "difficulty of focussing his eyes," was noted. It was worse when he was fatigued, and relieved, like some of the other symptoms, by rest, a full meal, or a dose of sulphate of magnesia.

He had one or two attacks of nearly complete unconsciousness.

Sometime in September or October he had severe pain in the stomach after eating, which continued at intervals up to the time of his coming to Washington. Gastritis was suspected.

On November 10th the patient was sleeping heavily, so that he could not be roused. He had been vomiting so persistently for some days as to lead to the suspicion of organic disease of the stomach.

Examinations made after he had returned to consciousness showed his manner to be sluggish and dull, but no delirium. He recognized persons, answered questions intelligently but slowly, and as if fatigued by the labor of thinking as well as of talking.

He said his head ached, but he was not much inclined to complain of it unless questioned.

There was a slight but distinct right facial paralysis, involving the muscles of the angle of the mouth rather than those of the eyelids. No paralyses of the muscles of the eyeball.

His handwriting at this time, in marked contrast to that of the letters, was uneven, irregular as to the direction of the lines and the size and shape of the letters, with some tremor or, rather, uncertainty of aim, and executed with hesitation and difficulty; but there was no misspelling.

He could perform all movements asked for with hand or foot, could stand on either foot, and stand with eyes shut. Whether sitting or lying he used either hand indifferently for any desired movement, and apparently alike.

There was, however, loss of power on the right. Deep reflexes normal.

The mental condition did not permit a careful examination in regard to tactile sensibility, but there was certainly decided anæsthesia on the right, but not complete.

The field of vision could not be determined, but the vision appeared good, and was certainly not sufficiently impaired to excite his remark. There was no optic neuritis. The pupils were equal, and reacted to light and to atropine readily.

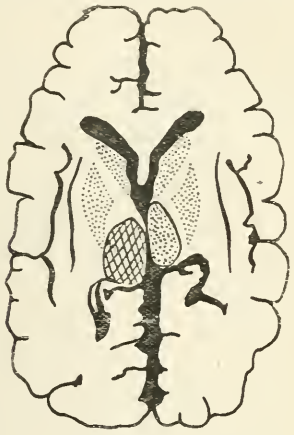
From this time until his death there were several attacks of deep somnolence from which he could not be roused, in which his pulse became very rapid and feeble, and his general condition alarming.

During these it was distinctly noticed that such voluntary movements as were made were executed almost entirely by the left side.

In other words, when he was in the somnolent condition the hemiparesis, which at other times was hardly, if at all, perceptible, became very well marked.

He lost flesh and strength, and began to pass urine and fæces in bed, even after he was able to make a coherent but short and sluggish reply to a question. Hiccough was a very annoying and exhausting symptom for two or three weeks before death. It had been present before he came to Washington for a considerable time. Constipation was marked most of the time, and occasionally the symptoms seemed to improve when it was relieved; but at other times restoration from the somnolent condition took place without any movement of the bowels having preceded it. The urine was examined with unimportant results. The treatment consisted in iodide of potassium in increasing doses, and for a few days bichloride of mercury. He died on December 13th.

The autopsy, three hours after death, was confined to the head alone. The surface of the brain was dry and the convolutions flattened, especially upon the left side. There was an excess of serum in the right lateral ventricle, but nothing else abnormal was found until a section, carried through the left thalamus, disclosed a pinkish tumor of rather soft consistency. The left hemisphere was placed in alcohol, and the tumor more thoroughly examined after hardening. On the ventricular surface the thalamus appeared simply enlarged and prominent, and to have pushed the nucleus caudatus slightly forward. On section, perpendicular to the ventricular surface, a thin layer of homogeneous, somewhat dense, gray matter (thickened ependyma) covered the rather friable brownish tumor. In the portion near the ventricle were a few small cysts containing fluid. Nearly the whole thalamus, except a small portion anteriorly and superiorly, was involved in the morbid growth. Its dimensions were: longitudinal, 5.7 ctm.; lateral, 2.5 ctm.; vertical, 5.0 ctm. Posteriorly and inferiorly the tumor was bounded by the corresponding horn of the ventricle. It compressed a little, but did not involve, the hippocampus. Anteriorly there was no distinct line of demarcation, though the transition from the diseased tissue to the normal was not a wide one. Above and anteriorly there was a little normal thalamus left. The tumor seemed to involve the posterior part of the posterior limb of the internal capsule. Externally it reached within half a centimetre, more or less, of the cortex, and was bounded by a moderately distinct line of demarcation, but no capsule. The corpora quadrigemina were unaffected. The external corpus



Horizontal Section through Basal Ganglia; corresponding to Dalton's Series B, Plate VII.

geniculatum was not identified, but the internal was closely underlaid by the morbid structure, although itself perhaps not actually encroached upon.

Sections of the tumor made and examined by Dr. W. M. Gray, the skilful microscopist of the Army Medical Museum, show that it is in reality a glio-sarcoma.

It will be seen that the salient points in this case were not numerous, but sufficiently distinct to justify a probable diagnosis of a tumor of the left brain, occupying a region either anterior to or behind the motor region, and probably the latter. Tumors situated so definitely and almost exclusively as this in the thalamus, and having so nearly destroyed it, are not common. Sometimes from their small size they cause only slight symptoms (and occasionally none at all sufficient to attract attention), but more frequently before death occurs they have invaded neighboring ganglia to an extent which diminishes their conclusiveness as physiological data.

The case here detailed has a tendency to show that the functions of the thalamus itself, the surrounding parts being comparatively unaffected, are not of such a character that their loss produces very obvious symptoms. In this case they are such that, with our present knowledge of the internal capsule, we are warranted in ascribing them rather to the limited lesion of this great conducting path ("sensory crossway") than to the ganglionic lesion. The most marked function, on the other hand, which is sometimes assigned to the thalamus, namely, that of being very closely connected in some way with vision, was, so far as could be judged, very slightly, if at all, interfered with, and was certainly not destroyed, or at all nearly so. The lesion, however, must have come very near to the part of the capsule where it would interrupt the fibres coming from the visual centres in the occipital lobe, but evidently had not actually done so.

The earliest, most distinct, characteristic, and most persistent phenomenon was the numbness, heaviness, and anæsthesia of the right side, and is fairly attributable to the involvement of the posterior part of the capsule.

The right hemiparesis, usually completely unnoticeable, or, at most, betraying itself only by slight traces in the face, but becoming very well marked during the somnolent condition, is probably to be connected with the varying conditions of pressure upon the anterior part of the capsule owing to the differing conditions of the circulation. This intermittency has been noted in other cases of tumor in this region.

The relations of the thalamus to vision are certainly not easy to make out, so far as cases of tumor go. In some, as well as in this, vision is distinctly stated to be entirely unimpaired, while in others hemianopia is noted. In others, still, we must infer the absence of hemianopia from the completeness of the report and the thoroughness of the observer.

It is to be regretted that a more careful examination in this direction could not have been made in our case before the mental faculties became too clouded; but it is certainly fair to suppose that at a time when the patient was able to notice diplopia and "inability to focus the eyes," and to observe the connection of this symptom with his general condition of fatigue, and also to note and describe the pulse, temperature, and tongue of a patient (October 14th), such a symptom as hemianopia or marked amblyopia could not have been entirely unnoticed.

Of the three most important general symptoms of cerebral tumor—headache, vomiting, and optic neuritis—only the first two were present.

Somnolence is likely to be an important symptom in tumors of the thalamus, since in this region, from its central situation, any enlargement produces a general and equable pressure in every direction. It may also easily happen that from the encroachment of the tumor on the aqueduct of Sylvius (iter à tertio, etc.) the accumulation of fluid will add to the generally diffused pressure. This, however, had apparently not taken place to any considerable extent in this case, although there was some excess of serum in the right ventricle.

The following cases, from among a much larger number examined by the aid of the "Index Catalogue of the Surgeon General's Library," resemble this here reported with sufficient accuracy to make them valuable for comparison. It is well known that observations of tumors limited, or nearly so, to the thalamus are not numerous.

They are introduced partly to show some other points of resemblance, but chiefly in reference to the question of the connection of the thalamus with vision.

Several others of a positive character, *i.e.*, where hemianopsia or crossed amblyopia was known to exist with a lesion of the posterior third of the thalamus, might have been added and may be found in Nothnagel;[1] but there are very few which show this coincidence in which it is clear that nothing beside the thalamus was involved. Nothnagel admits only two as conclusive; one by Remy, of crossed amblyopia (so reported, although it is thought possible by Nothnagel that it was really hemianopia), where the lesion was an old clot in the postero-supero external portion of the thalamus; and the other by Hughlings Jackson, of well-determined hemianopia, with a lesion which is very distinctly defined as not going beyond the thalamus.

On the other hand, there are a number where the posterior extremity was involved where vision is stated to have been good. Nothnagel says (1879) that disturbances of vision "can" exist with a lesion of the posterior third of the thalamus. Gowers,[2] nine years later, uses the words "may cause," but says, a line or two further on, that "hence we must regard the pulvinar as the intermediate visual centre."

I have not been able, among the cases published since, to find any which will bear such a criticism as Nothnagel subjects the earlier ones to, sufficiently well to justify the stronger expression of Gowers. It is certainly difficult to see how visual messages could have been transmitted through a way-station so hopelessly disorganized as the thalamus was in many of the cases to be reported, or in this one just described, sufficiently well for neither the patient nor such observers as Ferrier and Nothnagel to be aware that something was the matter with vision.

The first two cases, those of Webber and of Bruzelius and Blixt, are apparently somewhat in favor of the connection of thalamic disease and defect of vision; but the conclusiveness of the first is destroyed by the explanation of the sensory and motor phenomena given by the reporter himself, while the second is lacking in a clinical point of view. At the most, their value is better expressed by "may" or "can" than by "must."

Case I.—Webber:[3] Headache, attacks of unconsciousness (brief), right hemiplegia, right hemianopsia, right hemianæsthesia, with hyperalgesia, disturbance of speech, left amblyopia, tumor in region of optic thalami and corpora quadrigemina.

The posterior inferior part of the the right optic thalamus, in the immediate neighborhood of the corpora quadrigemina, was occupied by a nodule about the size of a filbert meat, of a red color, and rather soft consistency. The anterior corpus quadrigeminum was probably indicated. What was supposed to be the left optic thalamus was occupied through its whole middle and posterior portion by a soft red mass, like that seen in the right thalamus, and which was probably continuous with the latter. Altogether the mass must have been the size of a small plum.

Dr. Webber says the disturbance of sensation and the partial loss of motor power were probably caused by pressure of the tumor upon the posterior part of the internal capsule. Why not also the hemianopia?

Case II.—Bruzelius and Blixt.[4] Headache, weak-mindedness, formication in extremities, double vision, weakness in left (?) extremities, slight facial paralysis on the right side. Improvement with iodide. Sudden death. Hearing and vision diminished. Hen's egg tumor starting from left optic thalamus; ventricles distended with clear fluid.

Case III.—Hjelt.[5] A cholesteatoma the size of a hen's egg took in the whole of the left optic thalamus and stretched the horn of the left lateral ventricle and surrounded the choroid plexus. There were no symptoms. The patient died of cancer of the stomach.

Case IV.—Nicaise.[6] Woman, aged forty-eight. Headache left side, vomiting. Motility and sensibility intact. No trouble of vision, audition, or smell. A little incoherence, then delirium, coma, involuntary micturition and defecation. Convulsions more marked on the left side of the face. Ellipsoid tumor of the whole optic thalamus and corpus striatum of the left side, which were "totally" invaded.

Case V.—Ogle.[7] Girl, aged nineteen. Complained two or three days of sickness and headache. Drowsiness, no delirium or paralysis or alteration of pupils. Nothing said of vision. Died comatose. Left optic thalamus three times its usual size, encroaching greatly on right lateral ventricle; septum pushed forward, right thalamus pressed upon; other optic thalamus softer than natural, but nothing more.

Case VI.—Kerschensteiner.[8] Teacher, aged twenty-five. Severe headache; later vomiting. Senses completely unaffected. Pupils react, although sluggishly; cannot bear long looking at light. Some paralysis of left cheek muscles, but no other hemiplegia. The right ventricle contained four ounces of serum. A growth (soft, vascular glioma) had taken the place of the right thalamus; it was very difficult to separate from the brain substance, especially at the outer border.

Case VII.—Nothnagel.[9] Boy, aged thirteen. The face on the right side moved but little during any emotional manifestation, but at rest or for voluntary movements the paralysis was less marked. Diminution of sensation and motion on left. Gait staggering. The field of vision was not examined, but the patient could see, although the movements of the eyeball were somewhat restricted and he had choked disks. There was hydrocephalus internus and a glioma of the right optic thalamus, the lateral and posterior portions in particular being

[1] Die topische Diagnose der Hirnkrankheiten.
[2] Diseases of Nervous System.

[1] Boston Medical and Surgical Journal, September 20, 1888.
[2] Nordiskt Med. Arch., 111.
[3] Schmidt's Jahrbücher, 155, p. 150.
[4] Bull. Soc. Anat. Paris, 1874, p. 559.
[5] Path. Trans., Lond., 1855-56, vii., p. 12.
[6] Aertz. Intell. Bl., 1869, xvi., p. 295.
[7] Wiener Med. Blatter, 1889, p. 755.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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CHRONIC RHEUMATIC SORE-THROAT.

IN 1887 Dr. E. Fletcher Ingalls described an affection under the above name. He stated that it was a new disease in the sense that although it had existed for a long time it had not been recognized under its true characters by clinicians. The definition of this disorder as given by Dr. Ingalls (*Journal of Laryngology and Rhinology*, April, 1890) is as follows:

It is a painful affection of the throat, chronic in character, but varying much from time to time in severity, and attended by only slight physical changes in the parts involved. It usually affects the larynx, and therefore it has been described as rheumatic laryngitis; still, in many cases, it involves the fauces, the hyoid bone, and, possibly, the trachea, and it sometimes does this without involving the larynx at all; therefore the term chronic rheumatic sore-throat is preferable. It is comparatively frequent, occurs mainly in the spring or fall, and attacks adults. It usually comes on insidiously.

The patient complains of a localized pain, which is frequently referred to the cornu of the hyoid bone, and more often on the right than on the left side. Next in frequency it is felt in the larynx, generally upon one side only. It may be felt, however, in the trachea, the tonsils, and sometimes in the side of the base of the tongue. This pain is increased by pressure in nearly all cases, perhaps in all, and it may be increased by phonation or deglutition, but it often completely disappears while the patient is eating. In any case it is liable to shift its position from time to time, though frequently it is persistent for a long period in one locality. Sometimes, instead of an actual pain, the person will complain simply of a sensation of fulness or swelling of the part, or a feeling of dryness, itching, or burning; or it may simply be a sensation of discomfort which he cannot well describe. Usually the voice is not affected, but it is common for these patients to complain of fatigue after using it a short time. We find no constitutional symptoms, no fever, and the pulse is not quickened excepting from alarm. Usually there is no cough, but in some cases, especially where the larynx is involved, a hacking and annoying cough is a symptom. The digestive organs may act perfectly, but ordinarily we find the tongue more or less covered with a white or yellowish-white coating.

There may be some congestion of the parts, but this is not constant. The diagnosis is based on the uncomfortable sensations of pain, which change usually with the weather, a rheumatic diathesis, and absence of physical signs. Pressure usually increases the pain. The treatment consists in anti-rheumatic remedies internally, sedative and stimulant sprays, and hygienic measures. The most benefit has been derived from extract of phytolacca, gr. ij. to gr. iv., with salol and a laxative. Locally the application giving most relief has been a solution composed of morphine, gr. iv.; carbolic acid and tannic acid, each, gr. xxx.; and ʒ iv. each of glycerine and water.

ANOTHER FORTY DAYS' FAST.

SIGNOR SUCCI, who is gaining the reputation of being a "hunger virtuoso," has just completed a fast of forty days in London. The medical journals of that city credit him with the genuine performance of the feat. Signor Succi has done no more than our own Tanner, but he has been subjected to a more careful physiological study, and he has shown that a forty days' fast is possible to more than one human being. During the last days of his fast Succi lost about half a pound a day, his temperature remained normal, but his pulse was more than ordinarily rapid. The lesson of Signor Succi's experiment is one that has often been taught before, and it is that people eat too much, and, in this country, at least, drink too little. More diseases come from excessive and intemperate feeding than from alcohol, for wrong feeding is the basis of gouty, rheumatic, diabetic, and obese diatheses, as well as of an infinite number of gastro-intestinal ills.

THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

THE Forty-first Annual Meeting of the American Medical Association, which has just closed its sessions at Nashville, deserves to be recorded in the history of the Association as one of its most successful meetings. The attendance was not large, though perhaps up to the average; the representative men of the profession (those of the Northwest and South, as well as those of the East) not being present in their usual numbers. There was nothing epoch-making in the scientific work of the sections; but there was such a warm Southern welcome from the citizens of Nashville awaiting the members of the Association individually, as well as collectively, that the meeting was felt to be a success from the start. There were, as always, several public entertainments, but it was in the private receptions, of which there were three or four each evening, that the delegates were made acquainted with the citizens of Nashville, and learned how deserved is the reputation for hospitality which that beautiful city enjoys. The weather was perfect, and everything seemed to conspire to make the meeting one of the pleasantest, if not the most scientific, in the annals of the Association. There were no discussions in the general sessions which could arouse any ill-feeling, the nearest approach to such being caused by a motion to review the acts of the Publication Committee. The threatened trouble was, however, averted by a plain and temperate statement from Dr. N. S. Davis, for six years editor-in-chief of the *Journal*, of the impossibility of meeting the approval of everybody in the conduct of the official organ.

The Rush Monument Committee made its usual report, and despite past discouragements, expressed the determination to begin the erection of the monument in Washington during the quadricentennial year, though it did not explain what the immediate relation might be between the discovery of San Salvador by Columbus and the life and labors of Dr. Rush. However, we wish the committee the complete fruition of its hopes, and to this end we would urge upon our readers, whether active members of the Association or not, the duty of subscribing each his dollar to the monument fund. The Association has almost uniformly made a wise choice in the selection of its presidents, and the selection of Dr. Briggs, of Nashville, to preside over its deliberations next year, offers no exception to this rule.

ANTIMONY IN LOCAL INFLAMMATIONS AND TYPHOID FEVER.

Few drugs have had their value so fiercely contested as antimony. It was the cause of serious professional differences in the seventeenth century, when Patin attacked it with all the power of his wit and irony. It continued to be extensively used, however, and often in extraordinarily large doses (℥ j.). One of the most successful of homœopathic physicians, the late Dr. Gray, is reported to have said that if he had to choose but one word for his obituary, it would be "antimony."

It is said that the father of our country, Washington, was a firm believer in antimony, having felt that his life was saved by James's Powders in the early part of his career.

The physiological and clinical studies of modern times, however, have all tended to throw the drug into disrepute, and Nothnagel and Rossbach assert that its sole value is that of an emetic.

Surgeon-Major E. Lawrie, however, has recently come forward in *The Practitioner* as an advocate of antimony, especially in inflammations. Dr. Lawrie quotes the experience of Dr. Kent Spender, of Bath (*The Practitioner*, March, 1885), which was to the effect that tartar emetic in small doses (gr. $\frac{1}{6}$ every one or two hours) had the power of completely dissipating early local inflammations. Acting on Dr. Spender's suggestion, the treatment of surgical inflammation by antimony in small doses, frequently repeated, was commenced in the Afzalgunj Hospital in May, 1885. Dr. Lawrie has gradually extended its use, and has now come to look upon it as one of the most valuable drugs we possess, and as useful in local inflammations as quinine is in malarious fever. It prevents and arrests inflammation, if this is not originated or kept up by a specific or septic cause. It may be given, the writer says, without fear of causing nausea and diarrhœa or depression, even in diseases where its use would appear to be contra-indicated. For example, during the last year it was employed with unfailing success in mucous enteritis, which is of all diseases the most fatal to children in the plains of India. In these cases it arrests the diarrhœa and fever when nothing else will.

Dr. Lawrie adds that of late he has employed it in the treatment of typhoid fever, and has found that it cuts the disease short with such certainty that it almost appears doubtful whether the lesion of typhoid is specific or is not rather incidental or adventitious. In typhoid fever, no less than in mucous enteritis, the diarrhœa depends upon an inflammation of the intestine, and though at first sight it might be thought that antimony would increase the diarrhœa, it actually stops it, for the simple reason that it arrests the inflammation which causes it.

Dr. Lawrie's assertions are striking, and will no doubt be received with some hesitation. Still they are based upon five years' experience in both hospital and private practice, and they deserve some attention. We infer from a note that he prescribes the drug in doses of ♏ x. or ♏ xv. of the wine of antimony every hour or two.

ELECTRICITY AND THE HUMAN BODY.

The sudden death of another person by the alternating arc light current calls attention again to the effects of electrical currents upon the body, and the somewhat acrid disputes which have arisen in connection therewith. An important contribution to this subject was recently made to the Institution of Electrical Engineers by Dr. Arthur Harris and Mr. H. Newman Lawrence. The authors (*The Lancet*) conducted a series of experiments for the purpose of arriving at some numerical expression for this comparative physiological efficiency of the two forms of electric current. Their experiments embrace two classes of observations. The first are purely electrical, and go to show what is the resistance which the human body, considered as a conductor, presents to the passage of a current of either kind.

They found that the resistance of the body to continuous currents was, with good contact, seven times greater with continuous currents than with alternating. With poor contact the resistance to continuous currents was nine times greater than to the alternating current. These facts, if substantiated, would explain the well-known greater effects of alternating currents upon the human body, though they make the difference between the two much more than it really is, especially for currents that have been flowing for a time.

The second class of experiments dealt with the physiological effects of the two currents upon the human body. An elaborate series of sensation tests was made, but their value was strongly disputed by the members of the Institution.

Anniversary Dinner of the Hospital Graduates' Club.—The fifth anniversary dinner of this club was held on the evening of May 15th, at the Hotel Hungaria. The president, Dr. A. B. Townsend, was toast master. Dr. E. T. Doubleday, in the address of the evening, gave the humorous side to the struggles of the young practitioner, and was followed by Dr. R. W. Amidon, who discoursed in like vein upon the uses and abuses of electricity in therapeutics. The champion humorist of the club, Dr. J. S. Hawley, recited one of his characteristic poems. The other toasts of the evening were responded to by Drs. George F. Shrady, George H. Fox, Robert W. Taylor, A. E. M. Purdy, J. E. Janvrin, S. Baruch, W. R. Birdsall, and P. H. Ingalls, of Hartford, and lastly, the story-teller of the club, Dr. E. M. Culver, showed how well-founded was his reputation by appreciatively roaring responses he elicited.

News of the Week.

Advertising Patent Medicines in a Novel Way.—At the Methodist Annual Conference in Bath, Me., the report on printing showed the minutes printed at ten cents per copy. Objection was raised to an advertisement of Jamaica ginger, many of the members maintaining it to be an intoxicant. Bishop Andrews was surprised, because he had used it since he was a boy without knowing it was an intoxicant. A motion to advise the next committee to keep such advertisements from their minutes was made, but subsequently withdrawn. It would be in order for the enterprising firm to publish some certificates of the clerical gentlemen who have grown up on the drug.

Dr. Villemin, of Paris, the Vice-President of the Academy of Medicine, is said to be one of the leaders in the Buddhist propaganda which is just now amusing the fashionable world in Paris.

Honors to New York Physicians.—The Venezuelan papers announce that Drs. J. J. Henna and Robert F. Weir, of this city, have been decorated with the order of the "Busto del Libertador," in recognition of their services rendered to General Puga of that country. General Puga was suffering from a disease which necessitated the amputation of his tongue.

He Broke the Doctor's Jaw.—A physician of Brooklyn, one of the police surgeons, went recently to see a patrolman who was sick. The man was in bed when the surgeon called, but jumped out as soon as he saw him and struck him with his fist, fracturing his jaw and inflicting other injuries. The cause of the policeman's anger has not been made known.

A Leper at Boston.—Among the immigrants recently arriving at Boston was a Swedish woman whose appearance was such as to suggest leprosy. She was examined the first of this month at Quarantine, and was found to be without any doubt a leper. The woman was passed as all right by the English port physician at Liverpool, and by the steamship surgeon.

The Duty on Cod-liver Oil.—Many of the representative wholesale drug firms and manufacturing chemists of New York and Philadelphia have joined in a protest to Congress against the further imposition of a duty on cod-liver oil. They urge that cod-liver oil cannot be obtained in sufficient quantities in the United States, on account of the limited supply of fresh cod livers; that it is used not only as a medicine, but also as a food for weak persons, and that no other article can replace its excellent qualities for these purposes. They beg, therefore, that the Committee on Revision of the Tariff will place this medicinal article on the free list.

The Woman's Medical College, of Toronto, Ontario, was organized in 1883. A new college building has just been erected and was formally opened about two weeks ago.

The Massachusetts Homœopathic Hospital has appealed to the State for a grant of $120,000 to aid in the erection of several new buildings, and a bill for that purpose is now before the legislature.

A New Hospital in Portland.—The corner-stone of the Portland, Ore., Methodist Episcopal Hospital building, at Sunnyside, was laid recently with appropriate ceremonies. When completed the building will accommodate three hundred patients. The hospital will provide clinical material for the medical department of Willamette University.

Bellevue Hospital has improved its diet to the extent of making the average daily cost per capita forty-nine cents, instead of thirty-three as formerly, and even the patients notice the difference.

Death of the Elephant Man.—The *British Medical Journal* announces the death of John Merrick, who was well known in England as the "elephant man." This name was given him on account of a proboscis-like projection of his nose and lips, together with the peculiar shape of his deformed forehead. His disease was not elephantiasis, but a complication of congenital hypertrophy of some parts of the skeleton with pachydermatocele and papilloma of the skin. The deformity increased as he grew older, and the head became so large and heavy that when he lay down the head tended to fall back and produce a sense of suffocation. He was found dead in his bed in the London Hospital, and it was believed that the heavy skull had fallen backward while he slept and had dislocated his neck. Strangely, the hospital committee refused to have an autopsy made. The man had been exhibited several times before the London Pathological Society by Mr. Treves.

Invalids' Work.—Good health is not necessary to good work, says Dr. Whittaker, in the *Journal of the Medical College of Ohio.* Much of the best work in science, literature, and art has been done by invalids, he says, and illness should not be so universally invoked as an excuse for incapacity or an apology for indolence.

Refusing a Charitable Bequest.—Philip Maret, of New Haven, died several years ago, and, among other legacies, left $130,000, the interest of which was to go to the city of New Haven upon the death of his daughter, to care for the poor of the city. The daughter has died, and now it is said that the city government will refuse the bequest, alleging as its reason that the fund would simply be at the disposal of the ruling political party, as there were practically no provisions or conditions imposed in the legacy. The daughter, Mrs. Gifford, who died recently, left $300,000 with her lawyer, the income to be used as he thinks best for the lessening of the sufferings of all kinds of animals.

Dr. J. Dayton Munn, of Herkimer County, N. Y., died recently in Van Hornesville. He was a graduate of the Albany Medical College in 1844.

Physical Culture in France.—It is stated in the *Annals of Hygiene* that the Duchesse d'Uzes, of France, being greatly impressed by the physical development of English women, has returned to her native land fired with the ambition of making the French women equal to those of England. In accordance with this idea, she has started lawn-tennis clubs, and rowing clubs, and walking clubs, and is endeavoring in every way to make the French women interested in physical development.

The Electric Episcope.—At the German Congress of Internal Medicine, recently held in Vienna, Professor Stricker gave demonstrations with the electric episcope, invented by Herr Reiner, a Vienna medical student. This is an apparatus which makes it possible, by projecting objects moderately magnified on a gypsum plate, to show large objects, as, for instance, anatomical specimens of the cerebrum, etc., as well as experiments on animals carried out on a table, quite distinctly to an audience of four hundred persons. Professor Stricker showed the pulsating heart of a dog, and its changes under the influence of asphyxial blood. He also showed the human brain, and the movements of the intestines of a dog under irritation of the vagus. Professor Stricker also gave some interesting demonstrations with his electric microscope. He showed that by recent modifications of the instrument it was possible, by intense illumination, to attain even a magnifying power of 11,000 linear, and in this way to show, most distinctly, even bacteria to a large audience.

The Seventh Italian Surgical Congress was held at Florence, March 30th to April 2d; Professor Corradi presiding. Among the principal subjects discussed were: "The Latest Modifications in the Treatment of Wounds, with Special Reference to Drainage and to the Material Used for Ligatures;" "The Arrest of Hemorrhage in Resection of the Liver, and the Danger of Bile in the Peritoneal Cavity;" "Hypogastric Cystotomy;" "The Treatment of Abdominal Tumors;" "Resection of the Intestine;" "The Surgical Treatment of Tuberculosis," and "Various Modes of Treating Spontaneous Aneurism of the Internal Carotid." Professor Ruggi gave an account of the laparotomies performed by him since the last meeting—that is, in ten months. They amounted to 65, bringing up his total to 223. The cases included 5 of oöphorectomy with salpingectomy, all cured; 10 ovariotomies, all cured; 17 "castrations" for various reasons, with 16 cures and 1 death; 2 laparotomies for uterine fibromyoma and sarcoma, with 1 cure and 1 death; 9 supravaginal amputations of the uterus, with 7 cures and 2 deaths; 3 hysterectomies by Ruggi's own method, all cured; 2 for parametric cysts, both cured; 4 intra-abdominal replacements of the uterus, all cured; 3 for retroperitoneal and hepatic hydatid cysts, all cured; 3 exploratory operations, in all of which the patients recovered; and a few cases of a miscellaneous description (foreign bodies, tumor of pancreas, nephrectomy, etc.). Among the 65 cases there were only 5 deaths. Dr. Ferrari described a procedure for the radical cure of hernia, which he described as an improvement on Czerny's method; and Professor Postempski gave particulars of 41 cases in which he had operated by his own method, with 3 deaths. Dr. Postempski also related certain experiments on the cortico-motor centres of the human brain, which he had performed in some cases of head injury.—*British Medical Journal.*

A Salaried House Surgeon for Manhattan Hospital.—At the Manhattan General Hospital, Tenth Avenue and 131st Street, a House Surgeon is wanted (who must be a hospital graduate), to serve till November 1, 1890, at a salary of $50 per month. Apply in person, between 9 and 10 A.M., to Dr. F. H. Daniels, 126 West 126th Street, *Secretary of the Medical Board.*

Cerebro-spinal Meningitis is reported as prevailing to an alarming extent among horses in Kentucky.

The Connecticut State Medical Society will hold its annual meeting in New Haven, May 28, 29, and 30, 1890.

North Carolina Medical Society.—The thirty-seventh annual session will be held at Oxford, N. C., May 27, 28, and 29, 1890.

The Illinois State Medical Association.—The following officers were elected at the Annual Meeting of this Society, held on May 7, 8, and 9, 1890: *President*, Dr. J. P. Matthews, of Carlinville; *First Vice-President*, Dr. C. C. Hunt, of Dixon; *Second Vice-President*, Dr. F. C. Schaefer, of Chicago; *Permanent Secretary*, Dr. D. W. Graham, of Chicago; *Treasurer*, Dr. T. M. McIlvaine, of Peoria; *Assistant Secretary*, Dr. G. N. Kreider, of Springfield.

Cleveland's Colic.—The physicians in Cleveland are kept busy by an affection which seems to be epidemic, and which, for the want of a better name, they call "winter cholera." The chief symptoms are a severe colic, nausea, and a feeling of great depression. No deaths from the disease have been reported, but the patients, when attacked, feel that their last hour has come, and send in urgent haste for their medical advisers. The latter regard the disease, speaking financially, as almost equal to the influenza.

Examination for the Position of Eye, Ear, and Throat Surgeon to the Eastern Dispensary, New York City.—Applications are restricted to physicians who have had previous experience in hospital and dispensary practice and who are able to converse in German. Each candidate will be examined as to his practical familiarity with the diseases of the eye, ear, and throat, and with their treatment, and also as to his physical and general aptitude for the service. A daily service from 10 A.M. to 12 noon (Sundays and holidays excepted). Yearly salary, $400. Letters of application, which should be accompanied with such credentials, testimonials, etc., as may be proper, must be addressed to the chairman of the committee on applications of the Eastern Dispensary, 57 Essex Street, and will be received until May 28, 1890; after which date each applicant will be notified by letter of the time and place of examination.

The Sheppard Asylum.—Thirty-three years ago, Mr. Sheppard, of Baltimore, died, and left the sum of $560,000 for the purpose of building an insane asylum. Only the interest of the money could be used, however, and the institution has been slowly building ever since. It is now announced that it is nearly finished, and as a result of the delay, the trustees find that they have still a productive investment of $583,637.61, and buildings worth $881,262.27. The Sheppard Asylum will, therefore, when completed, be one of the richest institutions of the kind in the country.

The "Medicinesthe Revue" for Balneology, Hydro- and Mechano-therapy, Dietetics, and Hygiene, is the title of a new bi-monthly journal published in Vienna, and edited by Dr. A. Kállay of Carlsbad.

Society Reports.

ASSOCIATION OF AMERICAN PHYSICIANS.

Fifth Annual Meeting, held at the Medical Museum and Library, Washington, May 13, 14, and 15, 1890.

DR. SAMUEL C. BUSEY, PRESIDENT, IN THE CHAIR.

FIRST DAY, TUESDAY, MAY 13TH.

THE Association was called to order at 10.15 A.M.

The President's Opening Address.—DR. BUSEY said his address would relate exclusively to some points bearing on the new constitution to be acted upon at this session. He approved of the new constitution, the chief points in which will follow. He referred with especial satisfaction to the discussion of scientific subjects by referees and co-referees.

Attendance on Congress of American Physicians and Surgeons, 1891.—In accordance with instructions of the Executive Committee of the Second Congress of American Physicians and Surgeons, Dr. Pepper (Chairman of the Executive Committee) appointed the following committee to represent the Congress in Berlin, so as to promote a full attendance of distinguished men from abroad at Washington, 1891: Drs. J. S. Billings, Harrison Allison, A. L. Loomis, R. H. Fitz, C. H. Mastin, William Osler, H. C. Wood, D. B. St. J. Roosa, A. Jacobi, H. P. Bowditch, H. N. Mastin, N. H. Shaffer, John Green, Forcheimer, J. N. Danforth, W. Pepper.

DR. JACOBI, Dhairman of the American Committee of the International Medical Congress, extended an earnest invitation to all the members of the Association to attend the Congress. He also explained that the committee was appointed by the German Executive Committee at an unfortunately late date in the formation of the Congress; and that this committee is composed almost entirely of physicians living in Eastern and Southern cities, because circular letters of invitation to join the committee sent to physicians in Chicago, St. Louis, and other Western cities were either not answered at all or were answered at too late a date.

The New Constitution.—The object of the Association was stated to be for the advancement of scientific medicine and practical medicine. The number of active members was limited to one hundred. The officers are, a President, Secretary, Recorder, Treasurer, elected annually; five Councillors to serve each one five years; and a Representative of the Executive Committee of the Congress.

The meetings shall be held annually at Washington. Papers are to be by voluntary contributors and by referees and co-referees. Annual dues are fifteen dollars.

Natural History of Typhoid Fever.—DR. J. E. REEVES, of Chattanooga, read the first scientific paper. It seemed that at no time of the world's history was the human race free from epidemic fever. Regarding typhoid fever, as of many other diseases, it could be said that an unstable nomenclature had led to confusion. He used the term typhoid out of deference to one who had early befriended him, Dr. George B. Wood. Probably the title enteric fever would finally prevail. The author gave a history of the disease as he had observed it for nearly forty years in country, town, and city. He quoted from a letter written him by Dr. Wood in 1859, giving excellent reasons for not confounding typhoid with typhus fever, which was common at that time. Typhoid was not a modification of typhus, and depended on a distinct cause.

Cause of Epidemics Unknown.—We could not tell why at times there were such wide-spread epidemics, and must be content at present to refer it to what had been termed by Sydenham and others as "the medical constitution of the air."

The author gave a partial history of the epidemic which prevailed in Virginia, which was attended by a frightful mortality.

Typhoid fever was defined to be an acute contagious febrile affection derived from an antecedent case of the disease, and depending for its communication from person to person upon the presence of a specific micro-organism of believed well-known morphological character; prevailing less commonly in tropical and subtropical countries than in the temperate zone; both endemic and epidemic in its visitations, attacking preferably young persons and those in middle life; of long duration, but varying from ten to forty days beyond, or in addition to, the prodromic period, which may cover from one to ten or twelve days; if not diarrhœa, relaxed bowels, and at all stages a marked susceptibility to the action of laxatives, with pea-soup or ochre colored stools; intestinal hemorrhage in many cases, and in fewer instances perforation of the bowels; epistaxis; tympanites, with gurgling on pressure over the ileo-cæcal valve; dulness of hearing; sometimes unusual acuity of hearing; mental hebetude or morbid vigilance; headache; delirium; rose-colored lenticular eruption; cough and bronchial râles; fever curve unlike that of any other acute febrile or inflammatory disorder; in fatal cases death during third or fourth week; constant and characteristic lesion of the small intestine, involving the solitary and agminated glands. He had nearly always noticed enlargement of the spleen; convalescence tedious; true relapses not infrequent; the disease affording as perfect immunity as small-pox from subsequent attacks.

Types.—The author spoke of three forms—the mild, intermediate, and malignant. Of one hundred and seventy consecutive cases which had come under his observation, sixty-four were mild. The majority had lasted between thirteen and eighteen days.

The Eruption.—He had seldom failed to find this, and while it was usually on the abdomen yet he had seen it from head to foot, and on various portions of the body in individual cases, not excluding the face.

Recovery after Intestinal Perforation.—He had seen five cases in which there was recovery after all the usual symptoms of intestinal perforation.

He believed there was some ground for the popular impression that pregnancy offered partial immunity.

Unusual Complications.—Among occasional complications he had noticed swelled leg. The disease occurred more frequently in autumn and winter, in males than females, whites than negroes. It was not endemic in Chattanooga, a city of sixty thousand inhabitants, and many unsanitary conditions.

DR. WILSON, of Philadelphia, said most text-books claimed the eruption never occurred upon the face, yet he had seen it in this locality in four young subjects.

Treatment by Cold Water.—DR. WILSON had practised Brandt's method of treatment by cold-water bath, keeping the temperature below 101° F., in thirty-seven cases, and must state that this treatment had had a remarkable effect upon the natural history of the disease. It changed the disease to a mild continuous febrile disorder which did not affect the intellect or nervous system in the usual manner, which was followed by a brief convalescence.

Types.—DR. A. L. LOOMIS, of New York, thought the terms mild and severe covered the varieties sufficiently without the use of the term intermediate.

Causes of Epidemics.—He thought we had to look for one or two causes of wide-spread epidemics of contagious diseases, namely, the condition of the soil or atmospheric causes, in addition to the elements which produced local cases.

Peritonitis was, as the author had stated, one of the most fearful of the accidents attending the disease, yet it might be recovered from, but he could not conceive of a case recovering after intestinal perforation and escape of the gases.

Œdema of the Feet was, he thought, not infrequent, and was, he believed, usually due to venous thrombosis attending cardiac weakness.

Softening of the Heart, a term which had been used by Hayden, was usually recovered from completely. But during its existence the patient was menaced by two dangerous accidents—cardiac thrombosis and dilatation. This disease, he thought, was a cause of many cases of cardiac dilatation. Hence the need of careful management during convalescence.

Subacute Gastritis, from improper feeding, was another accident which he had witnessed.

"**Typhoid Spine**" was a term applied by Dr. Gibney to a condition which Dr. Loomis had witnessed in one case in particular. The patient had previously been treated by different doctors for supposed sciatica, psoas abscess, and spondylitis. Dr. Gibney found only sensitiveness on pressure over certain vertebræ, enjoined rest, etc., and the symptoms entirely disappeared.

Dr. Weir Mitchell had seen mild spondylitis, with symptoms like those just described, follow typhoid, malarial, and other fevers. The treatment was similar—rest, etc.

Dr. A. Jacobi thought we should hesitate about introducing new names; for instance, "typhoid spine." The condition was probably a mild spondylitis, of which he had seen a good many cases.

Dr. Johnson referred to an endemic of cerebro-spinal meningitis preceded by the contamination of the waters above by large numbers of decayed potatoes, and followed by endemic typhoid fever.

Dr. Pepper had also collected a large number of typhoid cases in which there was periostitis and spondylitis, simulating diseases of the spine. He objected, too, to the introduction of a new name.

Uses Nitrate of Silver.—He spoke in the highest terms of nitrate of silver throughout typhoid fever.

Dr. Busey, in closing, expressed want of faith in cold baths. In private practice, too, they were impracticable.

Inflammations of the Appendix and Cæcum, and the Duty of the Physician Regarding Them.—A paper by Dr. Norman Bridge, of Chicago, bore this title.

1. The appendix vermiformis is, of all organs of the abdomen of males, most prone to dangerous inflammation. In females this tendency is exceeded by the pelvic organs alone. The appendix is fourfold more liable to inflammation in males than in females.

2. Primary inflammation of the cæcum is rare. The great majority of cases of so-called typhlitis and perityphlitis begin as appendicitis, the tissues of and about the cæcum being inflamed secondarily. Even where cæcitis occurs primarily, it is most exceptional for it to lead to ulceration and perforation. When the cæcum is perforated, it is almost invariably from without, and due to the pressure of an abscess, the result of appendicitis.

3. Probably failure of free evacuation of the appendix is the first step toward its inflammation. Filled with enteroliths, resulting from retention of its contents, and occasionally with foreign bodies, with mucus and products of decomposition, it becomes inflamed, then undergoes ulceration of the mucous lining, which may produce perforation, resulting in peritonitis or cellulitis, depending on the location of the opening; if peritonitis, a localized inflammation and probably an intraperitoneal abscess, or a general peritonitis and death; if cellulitis, perityphlitis with probably an extraperitoneal abscess.

4. Most cases in males of so-called "inflammation of the bowels," as characterized by many general practitioners, are instances of inflammation of the appendix or cæcum, with or without the involvement of the connective tissue about them, or the peritoneum, or both.

5. Most cases of peritonitis in male patients, and not a few in females, are due to perforation and infection from the inflammations named.

6. Many cases of supposed intestinal obstruction (intussusception and volvulus), with evidence sooner or later of inflammation, are simply instances of peritonitis from perforation of the appendix, or of abscess due to previous inflammation of the appendix and its results.

7. It is probable that abscess rarely occurs until after perforation, albeit inflammation of small surfaces of the peritoneum, often resulting in adhesions, does frequently happen without it.

8. The fatality of all cases of appendicitis is not great; the fatality of cases ending in perforation is great. The deaths are from peritonitis generally, occasionally from inflammation of the organs, from wasting discharges of the abscess, and from general infection through entrance of the products of the disease into the blood channels.

9. One-third of all post mortems, at least, show recoveries from previously existing appendicitis. The duty and aim of the doctor must be to determine clinically, if possible, the cases that form this vast class and commit them to medical treatment, while he insists on surgery for those that lead to death directly, or to the hazardous results of abscess. Can this determination be made with certainty?

10. The diagnosis of perityphlitis is usually easy. Localized pain, sometimes masked by complaints of pain elsewhere and by vomiting, more especially localized tenderness, soon some evidence of tumor over the cæcum (the appearances often being greatly exaggerated by tension of the abdominal muscles, which disappears under anæsthesia), possibly pain in the region on flexing the thigh, with some fever—all following possibly a sharp attack of diarrhœa, or vomiting, or both—are ordinarily sufficient. The diagnosis of appendicitis before peritiphlitis has occurred is more difficult, since there is no tumor; the tenderness is often slight and very deep in the abdomen. The diagnosis must be made largely by exclusion. Yet an acute appendicitis may be ushered in by vomiting and pain in the epigastrium, which may evoke such complaints as to mask the pain in the cæcal region.

11. A large proportion of first attacks, and probably many after attacks, of acute appendicitis will doubtless recover without abscess, and with only slight cellulitis or peritonitis and adhesions, under proper treatment, namely—quiescence in bed, hot applications, anodynes, light diet, and a rigid avoidance of all influences that can provoke intestinal peristalsis.

12. When to go beyond treatment of these diseases and resort to operation can probably not be determined by any absolute and fixed rule. Each case must be dealt with by itself to some degree, since cases differ widely, but there are certain general principles that ought to guide us, in view of which we cannot escape our full responsibility.

13. Reliance on treatment is justifiable, in acute appendicitis, in the absence of strong evidence of perforation, abscess, perityphlitis, peritonitis, or of any considerable induration lasting two or three days, or of protracted severe pain, or resulting high temperature. We can never know, however, when a catastrophe is to occur. A few cases falling in this category will suffer sudden perforation, general peritonitis, and death; but nearly all of them failing to recover promptly, will, if perforation occurs, have sharply localized peritonitis or perityphlitis, and probably abscess that will be readily diagnosed. That in over one-third of post-mortem examinations there should have been found evidence of previously existing appendicitis would seem to justify this rule.

14. Surgical interference is demanded:

a. In acute cases with rather protracted high temperature, and with distinct induration that does not yield in forty-eight hours.

b. In cases of undoubted severe inflammation lasting several days, even though no particular induration can be made out (violent appendicitis), and in acute localized peritonitis having its origin at the appendix and producing marked constitutional symptoms (threatened peritoneal abscess).

c. In all acute cases where large induration develops rapidly with high fever. Here extensive deposit and abscess are almost certain, and the operation should be early.

a. In all cases advanced to the subacute or chronic stage with distinct induration and dulness (regardless of the temperature), since in most such cases pus is present.

e. In all cases of undoubted chronic appendicitis with recurring exacerbations, even if no induration can be demonstrated. In all such cases the patient is in constant danger of perforation of the appendix and mortal peritonitis, and laparotomy and extirpation of the organ (if done antiseptically) reduce the hazard.

Dr. Atkinson thought that since so many cases of appendicitis recovered spontaneously the physician was justified in waiting, watching his case carefully, applying other than surgical treatment, until the symptoms plainly demanded the services of the surgeon before he invoked them.

Dr. R. H. Fitz based his views on a study of seventy-two cases, observed in Boston the past four years. Of the number seen seventy-four cent. recovered. Of cases treated surgically, forty per cent. died; treated medically, eleven per cent. died. There were explanations for the high mortality in the former. About one-half were in females. The lesion was not sufficient in many cases to cause the patient to seek relief. He would not operate simply because of recurrence, but frequency of recurrence would have an influence.

Dr. A. Jacobi did not doubt that recovery from appendicitis was frequent. First attacks did not kill, in fatal or severe cases evidences might be found of previous attacks. One should not operate in the acute condition, with high pulse, absence of tumor, etc., but wait, give opium, make local applications, and after three or four days a tumor would be discovered in which the operator would find pus. It never had struck him that puncture in these cases of tumor was dangerous.

Dr. Pepper thought that the time had not yet arrived for laying down fast rules governing the time of puncture or laparotomy. He believed much might be learned by rectal examination, especially in cases where the tumor, owing to its depth, could not easily be made out by external palpation. If the temperature continued high, the evidences of peritonitis marked, perforation being probable, although the mortality would be high no matter what was done, and although we were liable to err in diagnosis, yet the ordinary treatment was so uniformly attended by a fatal result that he thought the surgeon should be called in to share the responsibility.

Local Tuberculosis as Cause of Appendicitis had been observed in three cases by Dr. J. H. Musser. He agreed with the other gentlemen in not recommending an operation, except where the indications were clear.

Cast of the Bronchial Tubes.—The specimen, a very perfect cast of the bronchial tube and branches, was presented to the Army Medical Museum by Dr. W. H. Hawley, and had been obtained by Dr. Weist, Indiana, at autopsy on a woman, aged forty-eight, who had pseudomembranous bronchitis, during the course of which she had coughed up such specimens weekly. Later she developed pneumonia and died.

Varicose Aneurism of the Aorta and Superior Vena Cava.—By W. Pepper and J. P. Crozier Griffith. Dr. Pepper read the paper. A Chinaman, aged forty-eight; had had no previous illness. Except for the presence of small varicose veins on the thorax the symptoms began suddenly, and consisted in extreme dyspnœa and cyanosis of the entire upper portion of the body, with absolute orthopnœa. The lower part of the body was entirely unaffected. There was dulness on percussion under the right clavicle. There was also a rhythmic murmur of a distinctly venous quality, heard best at the aortic cartilage, loudest with the systole, fainter and lower pitched with the diastole. It was heard distinctly in the neck and under the clavicles, and even down the arms. On the day before his death the patient coughed up several ounces of bright red blood. The autopsy showed the presence of an aneurism of the ascending portion of the arch of the aorta, pressing upon the vena cava, œsophagus, and trachea. The vena cava was constricted throughout nearly its entire length, and communicated with the sac by an opening three-fourths of an inch in length. Short abstracts were given of twenty-eight similar cases found in medical literature.

The diagnosis, he said, was easy in some cases; perhaps impossible in others. Among the principal symptoms in diagnosis were cyanosis, œdema, and coldness of the upper part of the body, and other evidences of obstruction to the superior cava. These symptoms were present in greater or less degree in all the cases in which histories were given.

No lesion would produce them except one obstructing flow of blood in the superior cava. If the obstruction were situated below the entrance of the azygos the chest would share the œdema; if above, the chest would escape. The comparative suddenness of the varicose aneurism was an important sign. The chief feature of the murmur, which was present, was that it was continuous, for the reason that the passage of blood from the aorta into the cava through the opening was continuous.

Antisepsis in Midwifery.—Dr. W. T. Lusk, of New York, read the paper. In a former paper he had stated that the reported number of deaths from puerperal sepsis at the Health Department of New York City, between the years 1867 and 1875, was 1,947, or an annual average of 215.5. Population in 1870 was 942,292. Deaths from same cause, 1885 to 1889, 1,105, or an annual average of 221. Population in 1890, 1,755,292. Thus it would be seen that the death-rate from this cause had by no means kept pace with the city's increase of population. It would appear, then, that puerperal fever was a preventable disease. Among the poor in their own homes he thought the dangers from childbed had not been lessened. How serious was the question under discussion was shown by Dr. Maury's tables, taken from the statistics of the Board of Health of New York, by which it appeared that, even in the past five years, one-tenth of all deaths in women between fifteen and forty-five were due to causes connected with childbirth, and that one-twentieth of deaths among women in the childbearing period were due to puerperal sepsis. The author here referred to the condition which surrounded the Maternity Department of Bellevue Hospital, and the marked death-rate prior to five years ago. During the past five years 837 women had been confined (in the buildings on Blackwell's Island) under modern antiseptic methods, with 16 deaths, nearly 1 to 82. Five of the deaths were due to eclampsia, patients being in convulsion when received; 1 to placenta prævia; 1 to Cæsarean section; 1 to alcoholism. In others also there had been prolonged labor, or other serious conditions to explain the fatal result. In one, possibly two, there was puerperal sepsis.

The regulations by which these results had been obtained were comparatively simple. The patient on her entrance into the hospital received a full bath; a rectal injection was given; the lower abdomen, inner surfaces of the thighs, the pudenda and anus were scrubbed with soap and water, then washed with plain water, and finally cleansed with a 1 to 1,000 solution of corrosive sublimate. The vagina was douched with soap and water, and then with a 1 to 5,000 solution of corrosive sublimate. In operation cases these douches were repeated before and after introduction of the hand or instruments. The assistants were not allowed to attend autopsies, surgical operations, or erysipelatous cases.

Doctors and nurses were required to wash their hands and arms in soap and water, and dip them in corrosive sublimate solution. Instruments were boiled and placed in a solution of carbolic acid before use. The Credé method of placental expression was practised. When the uterus was invaded by the physician, it was afterward douched with the corrosive sublimate solution of 1 to 5,000.

The external parts were covered by Garrigues's pad of corrosive sublimate gauze, which was renewed at stated

periods, and the externals washed. The temperature rarely rose above 100.5° F.

The author said there was by no means unanimity regarding the necessity or advisability of some of these procedures, such as the vaginal douche, the antiseptic pad, etc.; but the class of patients admitted to the Maternity were from among the poorest, dirtiest, and those often previously handled by dirty midwives, and they certainly fared much better under this management than formerly.

Indications for Intra-uterine Douche. — Dr. Lusk thought this was indicated only where the case had been slovenly handled during childbirth, and usually one douche was sufficient. Its frequent repeated use was attended by relaxation of tissues and consequent dangers.

Dr. Welch, of Baltimore, said experiments by Dr. Halstead had confirmed the statement that the hands, etc., were not actually sterilized by ordinary solutions of corrosive sublimate, but the slight deposit of the agent remaining on the skin rendered the germs inactive. A favorable ground was necessary for pus bacteria to give rise to inflammation.

Dr. Jacobi was satisfied the number of deaths from puerperal sepsis in New York was greater than the statistics contained in the paper indicated—two hundred and fifty per annum.

Avoidance of Mischievous Measures, in Dr. Pepper's opinion, had tended to lessen the mortality from puerperal sepsis as well as had the adoption of excellent measures. He had been satisfied, by seeing cases of puerperal fever in consultation, that repeated douching was provocative of the condition.

Bichloride Solution Dangerous.—Dr. J. W. Roosevelt, of New York, had known poisoning to result from the use of solutions of bichloride, and said it was a question whether as good results could not be obtained from sterilized water.

Dr. Lusk said, that in a thousand or more cases in which he had known the corrosive solution, 1 to 5,000, to be used, no injury had resulted.

Seizures Characterized by Shock and Loss of Consciousness.—Dr. Israel T. Dana, of Portland, Me., in the first part of this paper mentioned briefly cases in which coma, with more or less of shock, occurred as an incident in the course of certain diseases which it could hardly be said to characterize. Thus we have the post-convulsive coma of epilepsy; the coma of certain fevers; at the onset of eruptive fevers, especially in children; cholæmic, diabetic, uræmic, anæmic, and dyspeptic coma. He said his main object was to collate and compare, chiefly as to clinical history, the four typical forms of apoplectiform seizure—the hemorrhagic, embolic, congestive, and uræmic.

The chief elements involved in such seizures were abruptness and violence of invasion, loss of consciousness, depression of vital powers, and, combined with these, other symptoms which gave character to the particular attack.

After giving the hemiplegic and other usual symptoms of apoplectiform seizures, the author referred to some curious aphasic phenomena. For instance, one man could pronounce only the word or sound "bondileck," and would suppose that in repeating this with various modulations of the voice, that he was composing poetry or talking intelligently. He superintended a store while in this aphasic state, the clerks, however, doing the talking. In another case, aphasia came on suddenly without hemiplegia or coma, continued complete for six weeks, and then disappeared as suddenly as it had come. Here he thought the cerebral lesion must have been slight.

The Congestive Form.—The pathological basis of this form, he said, was distention of the cerebral vessels with arterial blood, the actual state of the brain tissue being that of anæmia from pressure of the distended artery.

The Uræmic Form, he said, was brought about by toxæmia, or the circulation in the blood of urea or tissue waste, which should be thrown off with the urine.

Forms in which there was only a molecular change, not a gross lesion, had interested Dr. Lyman, and he cited two or three instances in which there was only slight disturbance of speech, which he thought must have belonged to this form.

Dr. A. L. Loomis said the differential diagnosis between cerebral apoplexy, embolism, and thrombosis, was very difficult in many cases. Some years ago he had made a series of autopsies in cases in which hemiplegia was a prominent symptom, preceded by more or less loss of consciousness, without aphasia, cases usually put down as those of cerebral apoplexy, but instead he found thrombosis with softening. Sudden hemiplegia preceded by coma, coming on before fifty, was due in most cases to extravasation. Coma coming on suddenly, attended by paralysis, after fifty, was more likely to be due to cerebral thrombosis with softening.

Is Uræmic Coma due to Toxæmia?—There were so many conditions in the brain in uræmia which might account for the coma, that he thought we could hardly say the cause of the coma was due to toxæmia in the large proportion of cases. A more frequent cause, he thought, was cerebral œdema.

Congestive Apoplexy?—Dr. Loomis could hardly conceive of this condition. The term, he thought, had better be dropped. If there was apoplexy, he thought there must be extravasation.

Localized Cerebral Œdema.—Dr. R. T. Edes said this condition had been suggested in cases of supposed cerebral hemorrhage or embolism in which autopsy had failed to reveal these. There were, of course, great difficulties in determining local cerebral œdema post-mortem. By analogy such a condition could exist. He thought the general mental condition sometimes remained clear and normal in aphasic cases, with only a tendency to become easily fatigued.

Dr. Jacobi had four times seen unilateral symptoms in uræmia in adults, caused probably by local cerebral anæmia which might have originated from reflex vascular contraction or œdema, and he asked whether any member had seen this condition in children.

Dr. Tyson could see no reason why uræmic coma might not be due to toxæmia. Analogous conditions were seen in chloroform and ether coma in which a gross anatomical or mechanical explanation had not been thought necessary.

Second Day, Wednesday, May 14th.

Discussion on the Disorders of Sleep.—Dr. S. Weir Mitchell opened the discussion with a paper treating of the physical, motor, and sensory disturbances of what he termed the pre-somnium and post-somnium. The author referred to the limited literature on the particular points of which he would treat. Reference was made to his first paper in 1876, again in 1878, his book, 1882.

First, the relation of psychical, motor, and sensory disturbances to the præ-somnium and post-somnium premonitory to insanity was briefly mentioned. Cases were cited in which these prodromes of insanity were connected with the eye, ear, and in one with olfaction.

There were epileptic cases in which the inhibition of the fits from any cause, including bromides, caused homicidal explosions.

Pre dormant Terror.—Cases were also cited in which there was persistent terror without delusion before sleep.

Sensory Disturbances.—Various feelings of præ-dormant numbness, affecting the legs, arms, etc., were noted; also motor disturbances, monoplegias, diplegia, hemiplegia. In disturbance of sensation, there might be brief migraine or paræsthesia, anæsthesia, affecting different parts.

In some cases he had observed "sleep ptosis." In his

note-book were half a dozen cases of pain in the leg on falling asleep, which disappeared only on motion. In some, morphine had to be resorted to to give sleep.

Shock in the Head.—Interesting cases were cited in which in sleep there was a sensation of sudden and violent shock in the head. The patient felt as if struck in the head. There might be flash of light, sudden sense of odor, etc. The intensity of the phenomenon, especially the first time, was alarming. In some it was preceded by a kind of aura or warning. In some there was presomnic jerkings, preventing sleep. In rare cases there were choreic symptoms only on waking in the morning.

Tonic Spasm.—He had seen two cases with marked pre-somnic tonic spasm of the lower extremities. Patients were otherwise healthy. Brief mention was also made of failures of respiration in sleep.

Insomnia.—Dr. C. H. Folsom, of Boston, co-referee in the discussion on disorders of sleep, limited his paper to insomnia. Like Dr. Mitchell, he had nothing to add regarding the physiology of sleep, and pathology of insomnia.

Causes of Insomnia.—Examination of his cases showed the following causes: 1. Perverse habits. 2. External causes, including sensations, habit, heat, cold, hunger, noise, etc. 3. Excessive intellectual or mental activity, including excitement, grief, fear, etc. 4. Reflexes, of which indigestion was far the most common. This might fail to be indicated in the usual ways; next genito-urinary reflexes. 5. Traumatic causes. 6. Auto-toxic, in acute diseases, rheumatism, malaria, nephritis, constipation, excessive use of tea, bromides, etc. 7. Exhaustion from wasting diseases, sexual excesses, impaired nutrition of the brain. 8. Insomnia of vascular origin, from hepatic, cardiac, and renal disease, cerebral hyperæmia, arterial sclerosis, in syphilis, during puberty, menopause, etc. 9. Vaso-motor causes. 10. The neuropathic temperament, usually inherited, sometimes acquired. 11. Other diseases, as hysteria, hypochondria, organic diseases of the brain, etc.

Treatment.—This ground was touched upon. It related to change of habit, hygienic conditions, change of place, use of drugs, but hypnotics required to be given with care, and with the fact in mind that their long-continued use might be injurious or dangerous.

Discussion.—Dr. Pepper thought something might be learned from a study of the phenomena of natural sleep, among the most striking of which was general relaxation and cutaneous insensibility.

Combat the Diathesis.—Dr. Lyman spoke of the importance of treating the special diathesis which was often the cause of the insomnia.

Dr. Peabody emphasized the necessity for looking to dyspeptic causes, which were sometimes obscured.

Dr. Sinkler referred to enlarged tonsils as a cause of insomnia in children.

Value of Hypnotism.—Dr. B. F. Westbrook had obtained good results in some cases of acute and subacute insomnia by hypnotic suggestion.

Sulphonal.—Dr. M. A. Starr found sulphonal a valuable hypnotic. It acted better when the stomach contained some food.

A Study of the Sensory Disturbances in Hysteria.—Dr. C. L. Dana said his object in presenting this paper was to report results of study of the anæsthesias of hysteria in thirteen cases, six males, seven females. The histories illustrated very well the four points in regard to hysteria which modern research had tended to bring out, viz.: 1, The comparative frequency of the disease in men; 2, the common characteristics of the disease, whether caused by shock, trauma, local irritations, or general depressing influences; 3, the presence of some of the objective symptoms or stigmata of the disease in all cases; 4, the combination of true hysteria with organic disease.

The points noted were the cutaneous sensation of touch, temperature, and pain, their disorders and distribution of them, the muscular and articular sensations, the vision, hearing, taste, smell, and reflexes. The most constant form of sensory anæsthesia was a limitation of the visual field; next, disorders of cutaneous sensations, pain sense oftenest, then temperature, last the tactile sense.

The muscular and articular sensibility were rarely involved, and hysterical ataxia was rare. The color sense was sometimes implicated, but the complete inversion of the formula was not seen. Color-blindness occurred in two cases. Limitation of the auditory field for high notes was common, and was usually associated with bone-deafness to some extent. Deafness to low notes was quite rare. The pharyngeal reflex was usually absent on the anæsthetic side in hemianæsthetic cases. Knee-jerk in hysterical hemiplegia was diminished or temporarily absent. In paraplegia it varied. Taste and smell were not lost except in the hemianæsthetic cases.

Dr. S. Weir Mitchell had seen a case of hysteria without motor disturbance but complete absence of pain sense except to strong heat.

Recent Observations on the Etiology and Treatment of Migraine.—Dr. Wharton Sinkler, of Philadelphia, in this paper, quoted observations of different writers on migraine connected with uterine disorders, eye-strain, nasal irritation, decayed teeth, etc. Also to unusual visual phenomena, and hallucinations attending attacks. The author had seen six cases in which the attacks had occurred on a certain day of the week. Among therapeutic measures used recently with success by various writers were antipyrine, phenacetine, eucalyptus, caffeine, and other remedies.

Leprosy Bacillus.—Cultures from a case detained at Boston quarantine were presented by Dr. H. C. Ernst.

Infectiousness of Milk from Tuberculous Cows.—Dr. Ernst also referred to a paper read by him at the association last year on this subject, and presented a rabbit and slides from a recent illustrative case. A physician in Lowell had a patient less than a year old who had never been fed upon anything but breast milk and one cow's milk. The health of the parents was good, the surroundings hygienic; the child, however, had symptoms of tubercular meningitis. He turned attention to the cow, which, however, seemed to a veterinarian healthy. In a week the child died of tubercular meningitis. Inoculation of healthy rabbits with milk from this cow developed tuberculosis of which they died, and the tubercle bacilli were found. Neither milk nor cow had yet been studied microscopically.

Culture Obtained from Vaccine Virus.—Dr. Ernst also gave results of recent investigations in cultures of vaccine virus by Dr. Martin, in the laboratory of which Dr. Ernst had charge. Cultures were made February 13th, from a vaccine vesicle. February 20th, a calf was inoculated—typical results. February 27th, another calf inoculated—typical results. February 25th, second generation from culture of February 15th, and March 5th third culture. Inoculations with these cultures gave typical results. The fifth generation gave a like typical result in calves. Two children had also been inoculated with success. One had been afterward inoculated with ordinary virus, but without success, showing the culture virus was identical in action with the ordinary, as it was in appearances. Dr. Martin, he said, would continue his investigations.

Considering the importance of this discovery, on motion of Dr. S. Weir Mitchell, a vote of thanks was extended Dr. Martin, and the hope expressed that he would continue his work.

Cultures of Tubercle Bacillus.—Dr. E. L. Trudeau presented a culture of tubercle bacilli in man and another of the bacilli in a guinea-pig, the latter having a crumpled appearance which to him was unique. It oftener produces tubercular pneumonia, while the other, as usual, produced diffuse tubercles.

Case of Unusually Slow Pulse.—Dr. Prentiss again presented the man whom he showed last year, of unusually slow pulse, the beats falling at times as low as eleven per

minute, and then often accompanied by fainting spells. To-day his pulse was twenty-five, the respirations thirty-two.

Purpura Hemorrhagica Rheumatica.—He also presented a boy, aged about ten years, who had pains and swellings about the joints, shifting, simulating rheumatism, accompanied with purpuric eruptions, hemorrhages from the bladder and bowels, and also into the true skin or between the epiderm and derm, causing sloughing. The patient also had attacks of violent pain in the abdomen and chest, and vomiting. The attacks came on at intervals of six weeks to three months.

Case of Acute Pancreatitis.—Dr. R. H. Fitz, of Boston, read the history of the case. The symptoms were those of acute obstructive jaundice, the obstruction having been found post-mortem to be due to a diffuse purulent infiltration of the pancreas. He contrasted this with the hemorrhagic and gangrenous varieties. There were only ten or eleven cases of pancreatitis on record.

A Case of Acute Diphtheritic Colitis with Peri-Pancreatic Fat-Necrosis was reported by Dr. William H. Welch. Patient, aged fifty-three, had been a hard drinker. Three days before death he became delirious, and was admitted to the hospital. Temperature elevated; when first observed, 101.5° F.; on day of death, 105.4° F. Pulse 120 to 132, compressible. Spleen not enlarged; abdomen tympanitic, tender on pressure, especially in epigastrium; urine slightly albuminous; tongue clean and moist; no diarrhœa, except a few hours before death he had an offensive liquid stool. Urine and fæces passed involuntarily. Patient became unconscious, and died two days after admission to hospital.

At the autopsy, which was made an hour after death, were found numerous foci of so-called fat-necroses in the transverse meso-colon, and in the adipose tissue around the pancreas, with beginning sequestration of the pancreas. Liver intensely fatty. Contents of bile-ducts and of gall-bladder viscid, clear, with only slight yellowish tint. Renal epithelium fatty. Ecchymoses, small ulcers, superficial necroses, and diphtheritic exudation in large intestine. The foci of fat necrosis, as well as the liver, bile, and spleen, contained in large number a single species of bacteria, which was isolated and studied in pure culture. The organisms were bacilli belonging to the group of colon bacilli, and probably identical with the bacterium coli commune. Cultures and microscopical specimens were exhibited.

He also reported a case in which symptoms suggesting intestinal obstruction existed. Exploratory laparotomy was performed. Numerous foci of fat-necrosis were found in the omentum and mesentery, and a swelling in the region of the pancreas, but no intestinal obstruction existed. Portions of the omentum containing necrotic foci were excised, and were examined microscopically by the writer. The abdomen was closed, and the patient recovered.

What Can and Should be Done to Limit the Prevalence of Tuberculosis in Man?—Dr. E. O. Shakespeare, of Philadelphia, in this paper expressed warmly the view that the exciting cause was the bacillus tuberculosis of Koch, that the disease was not hereditary; that it was infectious or contagious, and that inasmuch as this disease caused more deaths than any other, and present modes of treatment were very inefficient, it was the duty of the profession to proclaim these views, and take active steps toward its prevention. There should be destruction of the bacilli in excretions and secretions of the affected, and avoidance as much as possible association of the well with the sick. Rigid inspection of milk and meat was a necessity. There should be special hospitals for the tubercular.

Dr. Trudeau thought it better for the tubercular consumptive patient to be in a special hospital where he could be properly treated, and it was better also for the community at large in way of prophylaxis.

Dr. Johnson had found consumptive patients do better in the deserts of the West where the air was inimical to animal and vegetative life alike, and therefore to the tubercle bacillus, than at so-called health resorts where no measures were taken to destroy the sputa, etc., of the consumptives congregated there.

Dr. Ernst related some clinical instances which tended strongly to the view that the persons acquiring and dying of tuberculosis were infected by exposure in rooms where there had been other patients with tuberculosis. As he had been quoted erroneously he wished to state distinctly that all processes produced by the tubercle bacillus were tubercular, but by no means were all destructive processes of the lungs known as phthisis tubercular.

Dr. Bridge thought it would soon be regarded as malpractice not to search for the tubercle bacillus in all suspected cases.

Third Day, Thursday, May 15th.

Discussion on the Modern Methods of Examination in Diseases of the Stomach.—Dr. F. P. Kinnicutt, of New York, opened the discussion with a paper on the above subject (see p. 573).

Dr. F. C. Shattuck sent a paper in continuation of the discussion. The introduction of use of the Nélaton sound had brought about a new era in diagnosis of diseases of the stomach. There were two main divisions into which the physical diagnosis of diseases of the stomach naturally fell: 1, Secretion and its modifications; 2, the length of time required for digestion, propulsion and absorption, and the capacity of the organ.

The author here spoke of the different tests for the presence of hydrochloric acid. A number of tests had been given of which he gave preference to phloroglucin vanillin test, although he admitted not to have tried the benzo-purpurin test. He summed up his estimate of the diagnostic value of the sound as follows: 1, The sound renders it possible to determine accurately the length of time required for digestion; 2, it also enables us to determine with far greater certainty than was formerly possible whether the size and seat of the stomach have undergone any notable pathological alteration; 3, it is contributing toward the classification on a pathological basis of the conditions hitherto embraced under the vague clinical term dyspepsia; 4, chemical study of the gastric contents when persistently carried out is an aid in the diagnosis of some cases, but its value is still quite subordinate to that of the rational signs; 5, these methods are so time-consuming, and their results so uncertain that in their present form their application presents almost insuperable difficulties, except to the hospital physician, who must also have a larger staff of trained assistants than is usual in American hospitals.

Dr. George L. Peabody, of New York, had found the chemical tests of marked diagnostic value in some cases. He instanced that of a man in which some time ago he would not have hesitated to make a diagnosis of cancerous stricture of the pylorus. There was marked emaciation, and marked dilatation of the stomach and vomiting. They found, however, free hydrochloric acid constantly present in the vomited matter and contents of the stomach, and for that reason he now felt positive that the stenosis was of a non-cancerous nature. He had recommended an operation.

Dr. Forscheimer thought the methods entirely impractical for the general practitioner.

Dr. W. H. Welch complimented the author on his painstaking work, and said with regard to dilatation of the stomach that motor insufficiency had to be considered, and like in the heart the early stage could not be recognized post mortem.

Dr. J. West Roosevelt thought the fact that the general practitioner could not apply these tests clinically was no more to be considered than that he could not make detailed reports on pathological specimens.

Dr. Kinnicutt was satisfied that, with a little practice, following the instructions contained in his papers, anyone would find these tests easy.

Notes of Two Cases of Acromegaly.—Dr. J. E. Graham, of Toronto, Canada, before reporting these cases gave a brief historical outline of the subject. The disease was first well defined and named acromegaly in 1886. Up to July, 1889, eighteen cases had been collected by Maré, and six others of doubtful diagnosis. A detailed account was then given of two cases:

Case I.—Male, aged thirty-nine, presented the following marked features: Enlargement of the face; thickness of the lips, especially the lower one; face elliptical in shape, hypertrophy of superior and inferior maxillæ; atrophy of the optic nerves; enlargement and flatness of the hands, feet enlarged; arms and legs normal in size. The disease had been about five years in existence.

Case II.—Male, died, aged fifty-one. The disease commenced when he was about twenty-five years of age. He presented the following conditions: Enlargement of the head and face; eyebrows prominent; nose enlarged, superior and inferior maxillæ hypertrophied; lips thickened, especially the lower one; face elliptical in shape; chin enlarged in every way, resting upon the upper and anterior part of the chest; neck short and thick; marked kyphosis of lower cervical and upper dorsal regions; sternum very prominent; enlargement of the scapulæ, scoliosis, lumbar lordosis; hands enormously enlarged, as also were the feet. No marked change in the arms or legs except the knees, which were increased in size. No post-mortem examination.

In both cases soft parts and bones were enlarged. The vitality diminished; mental faculties retained. In diagnosis myxœdema and Paget's disease were excluded, as were also gigantism and local hypertrophies. The voice became lowered, there was sexual weakness, but children were born after commencement of the disease. He treated but one case, without apparent result.

Dr. M. A. Starr had seen the case referred to in the paper before it had come under the observation of Dr. O'Connell, the reporter. She came to the clinic because of roughened condition of the skin on the hands, later also of the face and other parts. It went on to a marked hypertrophy of the integument and soft parts. The thyroid atrophied. He showed the patient to the class as one of myxœdema, but later the bones also became enlarged, and he was convinced Dr. O'Connell's diagnosis of acromegaly was correct. This patient's voice also changed, and the intellect grew duller. There was paræsthesia. The case seemed to show a relation between the two diseases, acromegaly and myxœdema.

The following papers were read by title: "The Diathetic Causes of Renal Inadequacy," by Dr. J. N. Danforth; "Report of Cases of Angio-Neurotic Œdema," by Dr. S. B. Ward; "Etiology of Pleurisy, Especially in its Relation to Tuberculosis," by Dr. A. A. Smith; "Report of a Case of Dysentery and of Hepatic Abscess, in which Amœbæ were Present," by Dr. William Osler.

Officers were elected as follows: *President*—Dr. William Pepper; *Vice-President*—Dr. H. M. Lyman; *Treasurer*—Dr. W. W. Johnston; *Secretary*—Dr. Henry Hun; *Recorder*—Dr. I. Minis Hays. *Members Elected:* Drs. Hobart A. Hare and J. P. Crozier Griffiths, of Philadelphia; Drs. T. S. Latimer and H. M. Hurd, of Baltimore; Drs. S. A. Fisk and C. A. Dennison, of Denver; Dr. C. S. Bond, of Richmond, Ind.; Dr. R. L. MacDonnell, of Montreal, Canada. *For Honorary Membership:* Dr. Fordyce Barker, of New York.

To Keep out the Influenza.—The Postmaster-General of Australia was so fearful that influenza would get to Australia that he suggested that mails arriving from Europe should be fumigated. The Colonial Boards of Health rejected the proposition, as they thought such a measure would be useless.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, held in the Army Medical Museum, Washington, D. C., May 13, 14, and 15, 1890.

First Day, Tuesday, May 13th.

The Association was called to order by the President, Dr. D. W. Yandell, of Louisville, who read the annual address (see p. 582).

The Secretary, in his report, announced the deaths of Dr. David Prince, of Jacksonville, Ill.; Dr. T. H. Squire, Elmira, N. Y.; and Prof. Richard Volkmann, of Germany.

Surgical Treatment of Tumors of the Bladder.—Dr. P. S. Conner, of Cincinnati, read a paper on this subject. That the bladder may be the seat of morbid growths has been known from the earliest times, but only recently has the treatment of vesical neoplasm been other than medical and symptomatic, general or local, intended to relieve pain, arrest hemorrhage, and remove existing irritation or inflammation. Though occasionally an outgrowth has been discovered and removed in catheterization, yet surgical interference as a regular formulized method of treatment, at least in the case of the male patient, may be regarded as dating from 1874, the year in which were done the well-known operations of Billroth and Volkmann. A sufficient number of cases have now been operated upon to enable us to fairly well determine whether or not surgical interference is proper, what it can accomplish, and how best it is to be made. Surgical treatment is fully warranted if it relieves symptoms and promotes comfort, still more so if in any considerable proportion of cases complete cure follows the removal of a growth.

In the years 1874 to 1888, inclusive, not including fifteen cases operated upon by Sir Henry Thompson, but not reported in detail, 176 patients were operated upon, 124 males and 52 females, with an apparent resulting mortality of 22.7 per cent.; 26.6 per cent. among males, and 13.46 per cent. among females. Of the 40 deaths, 13 occurred after the lapse of thirty days, and these are not to be attributed to the operation itself. Not more than thirteen per cent. can be attributed to the surgical interference. In more than three-fourths of the cases relief has been afforded, either permanent or for many months, or years. In almost all the forty fatal cases there was for a considerable time complete freedom from pain and bleeding. Surgical treatment is not only justifiable, but demanded, in every case in which there is not either, on the one hand, great mildness of symptoms that have manifested themselves only occasionally and at long intervals, or, on the other, such extreme weakness as that any interference would only hasten the approaching end, or such extensive malignant disease of the bladder, or of bladder and adjacent parts, as to render it impossible to effect removal.

How best can the growth be reached? In women the shortness and dilatability of the urethra indicates this as the readiest way of reaching the tumor. Of the 52 cases operated on, in 43 the growths were reached through the dilated urethra. In the remaining 9 colpocystotomy or suprapubic section was done, the former in 4, the latter in 5.

In almost all the males the bladder has been opened, sixty times from above, and fifty-one times from below. The mortality of the two operations is practically the same. As a diagnostitial procedure the perineal operation is preferable; but a diagnosis can usually be made by careful consideration of the symptoms. In the majority of cases the bladder can be reached through the perineal incision, but in a certain number it is impossible to carry the finger much beyond the urethral opening. In these cases there must be some uncertainty in locating the growth and difficulty in effecting thorough removal.

By the high section, on the other hand, thorough digital exploration is possible, and if desirable the cavity can be illuminated. The operative procedure can be done with

more exactness. An existing prostatic overgrowth is no contra-indication, but the opposite. The removal of such hypertrophied mass may be at the same time effected. Aside from securing thorough drainage, every advantage seems to lie with the suprapubic operation. To operate aseptically and to treat aseptically is certainly easier with the suprapubic than the perineal method.

Unfortunately only in a small minority of patients is the growth situated in the upper segment of the bladder, the portion most easily reached and cut away. Will it ever be found practicable to dissect out the whole lower segment, taking away at the same time, of course, the upper, which can no longer be of any service?

What can be done with the ureters? Experiments on animals show that they may be turned into the rectum or urethra, or brought out through the skin, the latter having proved the safest and most satisfactory disposition.

In conclusion it may be said that:

1. Only after operation is there much chance for recovery from any kind of vesical tumor.

2. That an operation should be done in all except the least and most severe cases.

3. That, as a rule, in males, the bladder should be opened above the pubes.

4. That the removal should be made as complete as the situation and extent of the growth will permit.

Discussion.—Dr. Hunter McGuire, of Richmond: I do not believe that anyone who has opened the bladder for the removal of a tumor, by the perineal and by the suprapubic method, would hesitate to adopt the latter as the easiest way of getting into the bladder, and the most reasonable way to get the tumor out. I have done twenty-one suprapubic cystotomies and have lost one case, eight days after the operation, from surgical kidney. Most of the tumors for which operation is done are connected with the prostate gland. Frequently we find a small tumor which is obstructive in its nature, but which cannot be discovered by the rectal examination. Some of these can be removed. I have operated eight times for enlarged prostate, leaving a suprapubic fistula. All these patients have complete control over micturition and empty the bladder at will.

I have met with few tumors of the bladder except small papilloma, which I have scraped away with my finger.

Dr. A. Vanderveer, of Albany: I was much impressed with the paper of Dr. McGuire on the "Formation of an Artificial Urethra," which he presented three years ago. I had performed Harrison's operation through the perineum and can endorse what has been said in regard to the difficulty of reaching the bladder in some cases. About two years ago I operated for vesical tumor by the perineal route, and removed a large portion of a papillomatous growth. The disease, however, returned in six or eight months and I then operated by the suprapubic method some sixteen months ago. Since then there has been no return of the trouble. I was greatly impressed with the ease of the second operation as compared with the first.

In performing the suprapubic operation I have sometimes found that the procedure was facilitated by a slight transverse incision of the recti muscles.

Dr. John H. Packard, of Philadelphia: Some three years ago I read before this Association a paper on "Suprapubic Cystotomy for other Purposes than the Extraction of Calculi." I am much gratified to hear the testimony today in favor of that operation, but I cannot fail to recall the hesitation with which these views were then received by several of the Fellows. The dangers attributed to the suprapubic operation are wounding of peritoneum, infiltration of urine, and hemorrhage. The idea of troublesome hemorrhage may be entirely set aside. Infiltration of urine is avoided by proper siphonage. With care there is not much danger of wounding the peritoneum.

Dr. John Homans, of Boston: I wish to add my testimony in regard to the usefulness of the suprapubic operation. I recently operated by this method with perfect success. The operation on the bladder through the perineum requires a surgeon with an extremely long finger.

Dr. W. W. Keen, of Philadelphia: My personal experience with tumors of the bladder is limited to one case, in which I adopted the perineal route, greatly to my dissatisfaction. The case was one of papilloma in a young man. I had great difficulty, after entering the bladder, of telling which was tumor and which mucous membrane with the finger. In removing the growth I introduced the closed forceps until it lightly touched the bladder wall, and then withdrawing it one-fourth of an inch, separated the blades and caught the growth. I removed a considerable portion of the growth, which under the microscope appeared to be papilloma. The patient has not improved to any great degree, and I shall in a short time perform the suprapubic operation.

A year ago I operated by the suprapubic route for multiple stones, and had considerable difficulty in reaching the bladder until I had the patient's hips elevated by an assistant.

Dr. D. Hayes Agnew, of Philadelphia: The only remark which I have to make is in regard to the diagnosis. By introducing into the bladder an instrument like a miniature lithotribe, it is possible to remove a portion of the growth and submit it to microscopical examination. In several instances I have made the diagnosis in this way.

Dr. Charles T. Parkes, of Chicago: My testimony is in favor of the suprapubic operation. I agree with the author in regard to non-interference in the mild and very late cases. I have operated three times by the suprapubic method for the relief of tumor. One case was papilloma in a child three years of age. The operation gave complete relief. A second case was that of a man, forty-five years of age, with symptoms indicating papilloma. The bladder was opened and a large mass of papilloma, occupying the lateral surface and somewhat of the base, was removed. This man was relieved of his suffering, but died two weeks after the operation from pneumonia. In the third case there was enlargement of the middle portion of the prostate. A large part of this was torn away with forceps. The man did well for a few days, and then some complication occurring, I made a perineal section to secure drainage and the man recovered.

Dr. L. McLane Tiffany, of Baltimore: In cases of prostatic growth I believe in suprapubic cystotomy and the removal of so much of the growth as interferes with the free discharge of the urine. I have drained a number of cases of enlarged prostate through the perineum, and while the patients have improved for a time the ultimate results have not been satisfactory.

The tumors of the bladder itself may be divided into the malignant and non-malignant. Of the latter, papilloma is the most common. In these cases the suprapubic operation is the preferable one. In malignant tumors of the bladder the treatment is only palliative. In one case of malignant disease at the base of the bladder I opened the organ through the perineum and had great difficulty in reaching the growth with my finger. In this case I simply drained through the perineum and the man lived in comfort for six months.

In many of these cases of tumor of the bladder the question of surgical kidney arises. Where there is reason to believe that such a condition exists on one side, it might be wise to pay attention to this, at the time of operation, by section and drainage or in other ways.

Dr. H. H. Mudd, of St. Louis: I have found the operation from above very satisfactory in the removal of tumors, and, in some cases, of stone in the bladder. In two cases, one in my own practice and one in that of another operator, the peritoneum has been opened; the openings were at once closed, and no bad results followed.

Dr. John E. Owens, of Chicago: I think that in these

cases there is danger of opening the peritoneum. In one case on which I operated, although both the rectum and the bladder were distended, the fold of peritoneum was only three-fourths of an inch above the symphysis. In doing this operation we should proceed with as much caution as though we expected to find the peritoneum at the lowest possible limit.

Dr. S. H. Weeks, of Portland, Me.: It seems to me that little can be done in malignant tumors of the bladder on account of the difficulty of the early diagnosis, the sessile condition of the growth, and the liability of the adjacent parts to be involved. I have no doubt that in pure papilloma, suprapubic cystotomy is the operation. The question has occurred to me whether or not, in enlarged prostate with inability to pass any urine, suprapubic cystotomy, with the view of removing the growth, was the best operation. Would it not, in such cases, be better to make the operation described by Dr. McGuire? I have two patients who have been unable to pass any water voluntarily, one for five years and the other for two years, yet they get along very comfortably by the use of a soft catheter.

Dr. P. S. Conner, of Cincinnati: In preparing this paper I purposely excluded all tumors which were not strictly tumors of the bladder. I had nothing to say about tumors of the prostate. The great majority of the deaths were not from the operation, but from the condition calling for operation. The mortality of the high and the low operation is practically the same. There is no question of the great advantage offered by the suprapubic operation.

It has been suggested that there is no use in operating on malignant cases. Although in these cases the operations have been done at an advanced stage of the disease when cure could not be expected, yet the patients have been afforded a relief from suffering and hemorrhage in many of the cases. If the time ever comes when we can remove the lower portion of the bladder, where malignant tumors are usually located, we may then hope for permanent relief in many cases. For it is remarkable how long the disease may remain confined to the walls of the bladder without extension to the glands or adjacent structures.

The Treatment of Fractures of the Shaft of the Femur.—Dr. Stephen Smith, of New York, read a paper with the above title. He said:

This subject has been assigned to me by the Committee of Arrangement. While I should hardly have selected a subject about which there is so little contention, yet it is nevertheless true that it is one of abiding interest with the general practitioner. With him the pressing question is what method of treatment shall be adopted which, while it will insure average good results, is within his ability to apply and is within his means. It would doubtless be a valuable service to the profession at large should this Association formulate a method of treating fractures which every practitioner could easily and safely apply, and which would give results which on the average were as favorable as those of any other method. I shall perhaps best fulfil the purposes of the committee if I limit this paper to a presentation of my own views of the indications of treatment in the several forms of fracture of the shaft of the femur, and the best manner of meeting these indications by a simple method adapted to the resources of the general practitioner.

The fractures which will be considered are: 1, Fractures below the small trochanter—sub-trochanteric; 2, fractures in the middle portion of the shaft; and 3, fractures at the base of the condyles—supracondyloid. It is proposed also to limit the variety of fractures to the ordinary simple oblique fractures without complication; the indications for treatment as learned from a study of the normal configuration of the bone, the peculiarities of the displacements, and the forces which maintain displacement, were then considered.

The treatment of fractures at the three points indicated should consist in extension in a straight-line position and the adjustment of suitable coaptating appliances to the limb at the seat of fracture. Of the methods of making extension, none can compare in efficiency and comfort to the patient with rubber plaster to the leg and the weight attached to the stirrup at the foot, with counter-extension by elevating the foot of the bed. Of the coaptating appliances none exceeds the plaster-of-Paris dressing. If applied as here proposed, five or six days after the fracture, no damage will be inflicted.

The first requisite is a suitable bed with a firm surface, with an opening for the passage of the evacuations. The foot of the bed is elevated four to six inches.

Extension should at once be commenced. The preferable extending apparatus is the rubber plaster and weight. When the rubber causes irritation, it may be replaced by a plaster-of Paris dressing to the foot and ankle, around which a cord may be fastened for the attachment of the weight. The weight should be sufficient to extend the muscles to the desired length, so as to bring the ends of the bone in apposition. A good general rule is to apply as many pounds as the patient is years old, up to twenty, but the effect sought is the better guide.

Four coaptating splints should next be applied to the whole length of the thigh and firmly compressed by four stout tapes. These splints should be of light wood and of such width as to nearly touch each other. This treatment should be continued for five or six days, at which time the limb should be in condition for the application of a permanent dressing.

No change is to be made in the extension, but the splints are to be substituted by a plaster-of-Paris dressing in each form of fracture. A roller bandage of heavy blanketing is first passed around the thigh, commencing just above the knee and extending as high as the waist-line. The plaster bandage is then applied until three layers are added. When the bandage reaches the fractured bone, a mass of cotton wadding is applied to the lower end of the upper fragment, and an assistant presses the bone firmly in contact with the lower fragment, and maintains this pressure until the entire bandage is applied. If, when the bandage has hardened, it is too tight at any point, it may be cut sufficiently to relieve the pressure. This bandage should be continued in position at least six weeks, and if in good condition it may be retained eight weeks. At the end of four weeks the extension may be discontinued and the patient may move about on crutches. If the splint becomes loose, it should be cut along the outer and posterior part and then tightened with three or four straps with buckles.

If the fracture is in the middle part of the thigh, the plaster bandage should be applied from three inches below the knee to the groin. If the fracture is at the base of the condyles, the bandage should extend from the middle of the leg the entire length of the thigh. It is important in fracture at this point that the foot should be kept in a position of extension on the leg during the entire course of treatment, in order to secure as completely as possible relaxation of the muscles of the calf.

If the practitioner prefers the use of splints to the plaster of Paris, the four splints first used may be continued, but in this case the long side-splint should also be employed.

I am aware that I have advanced nothing novel. The same general ideas have been presented to the profession in the writings of Professor Hamilton. As a pupil, I traversed this ground with him and saw every possible test applied, and as a result came to fully endorse his conclusions. He did not claim that treatment of fractures of the femur in the straight position secured perfect results. On the contrary, he established the fact that perfect results could not be obtained uniformly in oblique fractures by any method of treatment yet devised. His mature conclusion was that, as a rule and in the hands of the general practitioner, the straight position gave, on the

average, the best results. And this conclusion is enforced by my own experience.

Discussion.—Dr. D. Hayes Agnew, of Philadelphia: Fracture of the shaft of the thigh occurs most commonly at the junction of the middle and lower third of the femur. In fractures at the upper third the upper fragment is displaced by the iliacus and psoas muscles and becomes the troublesome fragment in the treatment. There are only two methods of treating fracture of the femur, that is in the angular position and in the horizontal position. For every fracture of the femur, with the exception of that at the upper third, I agree with Dr. Smith in recommending the horizontal position. In fractures at the upper third I think that the double-inclined plane with extension in the line of the femur answers best.

In regard to the mattress, the opening in it is usually too large. It should not be more than three inches or three and a half inches in diameter, as it increases in size. This opening is unnecessary. With a little skill a bed-pan can be introduced from the sound side, or the evacuations can be received on a wad of oakum.

Extension is in my judgment best accomplished by adhesive strips extending from the upper end of the lower fragment to three inches below the foot, and ending in a stirrup. It is unnecessary to restore the fragments to their proper position at once. For the first two or three hours, it is best to make no attempt at extension. At first eight or ten pounds is sufficient, and this will gradually pull down the lower fragment. If the lower fragment comes down in six or eight days it is all that is required. The weight may possibly have to be increased to twelve or fifteen pounds, but I have not seen more than this needed.

Lateral support is imperative, and I think that this is best afforded by the use of sand-bags, a longer one on the outside and a shorter one on the inside.

There is another displacement, and that is a little external rotation of the foot. This is readily overcome by a piece of bandage tied around the foot and secured to the inner sand-bag.

I take exception to one point referred to by the author, and that is in regard to the application of the plaster bandage. We cannot apply such a dressing without to some extent disturbing the seat of fracture. If the plaster bandage is applied accurately, there will follow a certain degree of atrophy of the soft parts, and the limb will lie in a sort of inflexible shell. After union has taken place, I see no objection to a slight support to the limb to prevent accidents when the patient first begins to go about.

There is one point which was not brought out in the paper, and that is whether in the adult we are to expect cure without appreciable shortening. For myself, I do not believe that it is possible by any contrivance to cure a fracture of the femur without appreciable shortening.

Dr. John H. Packard, of Philadelphia: In regard to what may be said to be a satisfactory result in fracture of the femur, I should say that the fracture is satisfactorily cured when the patient is able to walk without perceptible limp, and with his usual strength. I do not believe that it is possible to cure the fracture without a certain amount of shortening.

In fractures of the middle of the calf, we must remember that we have behind a mass of muscles which can be relied upon to keep the fragments in place, if supported by a splint to the front of the limb, of tin or binder's board. This obviates any tendency to bowing backward, the worst deformity that can follow. I agree with Dr. Agnew that the weight needed does not as a rule, exceed ten or fifteen pounds. I think that the plaster bandage is objectionable for several reasons. It cannot be readily removed to admit sponging and bathing of the limb, which is important in the later stages of the treatment. I much prefer a long zinc splint fitting the outer side of the limb, and held in place with a bandage. This can be readily removed when necessary.

Dr. John A. Comingor, of Indianpolis: In the West we depend largely on the plaster bandage in the treatment of fractures of the thigh. We have used that for many years. We apply the bandage at once. This facilitates the absorption of exuded blood and prevents consequent swelling. Many of us think that the plaster bandage affords all the extension that is needed. If the parts are placed in apposition, and the muscles stretched when the bandage is applied, we get certain bearings that keep up the extension. The bandage is left ten days, and then if necessary it is removed, and if everything is right reapplied for another ten days. In this way the inspection can be made without disturbance of the parts. With this dressing it is not necessary to confine the patient to bed any length of time. In the course of a couple of weeks the patient can go on crutches. It seems to me that we obtain better results with the plaster bandage than with any other method of treatment.

Dr. J. R. Weist, of Richmond, Ind.: I think it important to make a distinction between the treatment of fracture of the femur in adults and the same injury in children. I have here a table of forty-one cases treated in private practice, and of this number nine were children under five years of age. At this age I do not think that Buck's extension is required. Where the fracture is above the middle, I have used plaster-of-Paris splint, including the thigh and pelvis. Where the fracture is at or below the middle, I have used coaptation splints. These have proved sufficient. My experience leads me to believe that there is a decided difference in the management of cases between five and twenty years, and those at a later period of life. I had expected to hear some statement as to what are average results. I consider that I have obtained a good result when the shortening has not exceeded one-fourth of an inch. I do not employ the plaster-of-Paris dressing in the treatment of fractures of the shaft of the femur, except in fractures above the middle of the thigh in children under five years of age. I feel better satisfied with a dressing which I can remove and inspect the limb at pleasure.

Dr. H. H. Mudd, of St. Louis: It seems to me that we get the best results with moderate extension. In St. Louis we almost entirely use Hodgkin's splint, which is easily applied and can be made by any blacksmith. In the majority of cases of fractures of the shaft of the femur, it will give results which are practically perfect. Many years ago I abandoned the treatment of fractured thigh by the plaster bandage. Hodgkin's suspension splint permits any adjustments to be made without disturbing the fracture. The patient can move at pleasure or sit up if he desires.

The President: For twenty years I have not used anything in the treatment of fractures of the thigh but the plaster-of-Paris dressing. I do not employ the extension apparatus. Writing on this subject in 1870, I said that the time for the application of the fracture dressing was at the moment of the accident; the place, where the individual was; the way, the plaster-of-Paris bandage. I do not claim better results than others, but I secure a great deal of convenience to the patient.

Dr. S. H. Weeks, of Portland: An important indication in the treatment of fracture of the shaft of the femur is fixation of the joint above and below the fracture. This has not been dwelt upon to-day. This indication is probably best fulfilled by the long Liston splint. In fractures of the upper part of the femur where there is a tendency for the upper fragment to become displaced, I have applied a bag of shot or sand to keep it in place.

Dr. Stephen Smith: In my paper I confined myself to the treatment of simple fractures in adults. I purposely excluded fractures in children. In regard to Hodgkin's splint, I may state that it was tried by Professor Hamilton in a series of cases, and he states that his worst results were obtained with that splint. I had intended to suggest that a committee might be appointed to formulate some conclusions, first as to the results to be expected in fractures of the shaft of the femur, and

second as to the methods of treatment; but in view of the apparent diversity of opinion on these matters, this seems impossible.

A Rare Form of Epithelioma of the Hand, by Drs. Charles B. Nancrede and Heneage Gibbes, of Ann Arbor.—We shall first refer to the pathological changes and then to the clinical history. While the pathological appearances of this growth suggest the presence of arsenic, a disease similar to if not identical with that termed arsenic keratosis and cancer by Mr. Jonathan Hutchinson, and considered by him to be due to the internal use of arsenic, the clinical history shows that arsenic was not the cause in this case.

Sections of the growth stained with logwood show two kinds of changes, irregular masses which have a yellow color and columns of epithelial cells which permeate the sections giving the appearance of a net-work of trabecula. Filling up the interstices between these is a connective tissue showing evidences of rapid formation. The yellow masses are composed of cells undergoing a horny change. The epithelial trabecula are composed of cells similar to those found in rapidly growing epithelial cancer of the squamous variety when infiltration of the deeper tissue is going on.

The important point is the relation between the horny growths and the rapidly growing epithelioma. It seems evident that the former has been slowly formed. It would seem that the morbid growth was at first a simple keratosis, which by prolonged irritation set up an epitheliomatous growth, but it is difficult to see how this irritation should become at once universal throughout the growth. The epithelioma is growing rapidly and the small size of the trabeculæ show that it cannot have existed for a long time.

The patient was a widow, aged sixty-seven, who had been pecked by a hen on the dorsum of the left hand twenty years ago. The wound left an ulcerated surface which after repeatedly scabbing over, apparently healed six or seven years ago, when from its former site, a dry brown warty growth started having a base of perhaps one-third of an inch. This was removed by a ligature, but a series of warts replaced the primary one. Pain has been a prominent feature for the past five years. Eighteen months ago, muriatic acid was applied to the surface, which was then three fourths of an inch in diameter. After this the sore rapidly increased in size. The patient then consulted a physician, who for a short time applied arsenic locally as a caustic. The ulcer not improving, we were sent for, and amputated through the middle of the forearm, December 27, 1889. The patient rapidly recovered. So far there has been no local or glandular involvement. We have been informed that on the other hand a keratoid-looking mass has appeared, but of this we have no personal knowledge.

We cannot but consider that our case throws some doubt upon the deductions of Mr. Hutchinson as to the specific causative relation existing between the prolonged internal use of arsenic and the keratoid and the epitheliomatous changes in the diseased areas. In view of the commencing keratoid changes, on the other hand, the case will be kept under observation and reported upon at some future time.

Second Day, Wednesday, May 14th—Morning Session.

The Pathology and Treatment of Club-foot, especially Varus and Equino-varus, with Brief Clinical Reports of Fifteen Excisions of the Astragalus for the Correction of this Deformity.—This paper was read by Dr. Thomas G. Morton, of Philadelphia.

Club-foot is not a product of modern civilization. It existed as far back as our records extend, and it presented the same problems to the early physicians that it does to the surgeon of to-day. It is only our ideas of its pathology and methods of treatment that have changed.

The history of the operative treatment of club-foot naturally divides itself into three periods. In ancient times such poor results followed cutting operations that they were practically abandoned, and manipulations and bandages relied upon. This sufficed in the simpler cases, as it does to-day, but the graver forms of the malady were regarded as hopeless malformations. The second period began about 1834, when Stromeyer first published an account of his method of tenotomy. The third and present period began with the introduction of the antiseptic wound treatment, first scientifically formulated by Sir Joseph Lister, less than a score of years ago. With thorough antisepsis inflammation and suppuration may be said to no longer exist.

Pathology and Morbid Anatomy.—The pathology of congenital club-foot is in some points perhaps still unsettled. In the acquired, non-traumatic form, it is generally admitted that the larger proportion of cases have their origin in infantile paralysis. As regards congenital club-foot, there are good reasons for believing that in some cases, if not in all, the affection in its pathology resembles very closely the infantile form of spinal paralysis, if indeed it be not identical with it. In any given case of club-foot, we shall find in one or more of the muscles or groups of muscles of the leg and foot more or less paresis or actual paralysis, and in other opposing or correlated muscles, tonic spasm or contraction.

In explanation of the differences between various grades of congenital club-foot, it seems reasonable to assume that the amount of deformity is dependent upon the period of intra-uterine life during which the nerve lesion or palsy occurred. At an early period of fœtal development it is apt to give rise to the more marked forms of tarsal distortion. Later on there is less likelihood of malformation and displacement of the bones, the distortion being mainly in the soft structures. Later in life we see an inveterate form of varus or equinovarus, due either to ineffectual or improper treatment or to neglect of after-treatment, or to entire want of treatment.

The important features in the pathology of club-foot are:

1. The period of life at which it occurred.
2. Whether or not the foot had been used in walking.
3. Whether or not there had been any previous treatment or unsuccessful operations.

At birth there is one form of club-foot of such constant occurrence that it may be regarded as the typical congenital variety; it is varus or equino-varus.

The modern treatment of talipes is the direct result of our present methods of wound-treatment. It would have been impossible without the aid of antisepsis to perform the operations now practised, or to have improved so generally upon the old methods of treating these deformities. There is still great diversity of opinion in regard to the treatment of talipes, and even in the more inveterate forms of deformity in young persons and adults the operation as yet has not been established. There can be no routine treatment of these conditions; each case must be studied by itself, the object being to restore the deformed foot to as near the normal condition as possible, to retain it in this position, and to restore its functions as soon as possible. Excluding all forms of foot deformity which include valgus and calcaneus, and which give rise to little if any difficulty in their treatment, the discussion will be confined to the two really important varieties of congenital club-foot, varus and equino-varus. These may be considered under two heads: 1, The simple or uncomplicated; and 2, the complicated.

1. **The Simple or Uncomplicated.**—In these cases there is little or no change in the articulation of the bones of the tarsus, and they can usually be relieved by simple measures. If, when the child is ready to walk, equinus exists even to a moderate extent, the tendo-Achilles should be divided, but the tenotomy should not be performed until this time. Appropriate light apparatus should be worn from an early age.

2. **The Complicated Form.**—In these cases, while the varus can usually be overcome without operation, the equinus cannot be so overcome, and the foot cannot be brought to a right-angle position with the leg. It will be found in such cases that the normal depression on the dorsum of the foot, just in front of the fibula especially, is filled with a prominent mass of irregular bone, which can be readily outlined, especially if the foot is placed in a position of extreme varus. This is the astragalus forced out of its normal position of articulation with the os calcis, as a result of long-continued tendo Achillis contraction exerted probably from an early period of life —fœtal life—partial or complete dislocation backward of the tibia and fibula has occurred while the astragalus is at the same time pushed forward and from its natural position and rotated. The leg-bones then rest upon the calcis and a new joint is formed, while the displaced astragalus represents a sort of wedge in front of the ankle-joint, interfering with joint motion and preventing flexion of the foot at a right angle. It is to this pathological condition that our attention must be chiefly directed in treatment. A large number of the failures of operation in talipes have probably been due to a failure to recognize this condition. I am inclined to believe that, if this view of the case is correct, tarsotomy, tarsectomy, and the open incision will rarely if ever be required in the treatment of the congenital form of equino-varus described. I have operated on such cases by tarsectomy and open incision, and have later been compelled to remove the astragalus in order to bring the foot properly to the ground. The bones removed have been so altered in shape as to be unrecognizable as the astragalus. The removal of the astragalus in these cases in no wise shortens the limb, because the tibia and fibula do not articulate with this bone but with the os calcis.

We may now consider those cases of aggravated or inveterate deformity, whether congenital or acquired, and which have resulted from improper treatment or neglect of treatment, and which may be called inveterate club-foot. Congenital or acquired varus or equino-varus readily become aggravated by walking, partly by the action of the muscles, but principally by the weight of the body. The deformity may go on increasing until the patient walks on the cuboid, or even upon the dorsum of the foot. Whether the deformity is congenital or acquired the object should be to effectually rectify the malposition, so that no disposition to contraction can be observed at the time of the operation. I should lay down the rule that all interfering soft structures, soft parts, or bones should be sectioned or excised. It will be commonly found in the congenital forms that the astragalus is the obstruction to rectification. When tarsectomy is practised, it must first be demonstrated that the astragalus is not the cause of the distortion. If the astragalus be the source of deformity, it will be found if it be removed that the foot will unfold and be brought into a good position by moderate manual force. Occasionally there will be found great fore-shortening of the skin and deep soft tissues on the inner side of the foot, and it may be necessary to divide these tissues freely. In order to obviate the contraction which would necessarily follow such an open wound, which must also be of considerable size, I have made a plastic operation by turning upon the wound a flap of integument from the dorsum of the foot.

The treatment of talipes varus and equino-varus, congenital or acquired, simple, complicated, or inveterate, may be briefly summed up as follows: 1. Simple or uncomplicated congenital varus and equino-varus can be cured without operation, other than occasional section of the tendo Achillis. 2. Complicated congenital equino-varus which is associated with dislocation or displacement forward of the astragalus, requires excision of this bone and tenotomy of the tendo Achillis. 3. Mild, severe, or inveterate talipes, whether congenital or acquired, which has never been treated, or which has been neglected after treatment, or improperly operated upon, may require, according to the deformity, tenotomy, excision of the astragalus or cuboid, tarsectomy or open excision, or a combination of these operations, according to circumstances.

The operation for excision of the astragalus presents no special difficulty. An Esmarch bandage should be used. The astragalus is subcutaneous, and readily exposed by a curved incision including the most prominent part of the bone, and extending from the end of the external malleolus, in a straight or slightly curved line, to the base of the metatarsal bone of the middle ring toe. The attachments of the bone are then separated, and it may be lifted with bone-forceps. The tendo Achillis should always be divided. The edges of the incision are brought together with interrupted gut sutures, and a few strands of the same are carried to the bottom of the wound to insure drainage. Immediately after the operation, the foot should be capable of being placed in an easy natural position without any tension. If there is the slightest tendency for the foot to assume an abnormal position, search should be made for the contracted tissues and such should be sectioned. Before, during, and after the operation, rigid antiseptic measures should be employed. A well-padded posterior right angle tin splint is applied, care being taken to have the heel well down and the deformity slightly over-corrected. If there is no soiling of the dressing, it need not be changed for several weeks. At the end of a month, usually, the wound is firmly closed, and shortly after this, or as soon as the child makes any effort, he should be encouraged to walk, when the splint must make way for the ordinary talipes walking shoe. After considerable experience, I am prepared to believe that tarsectomy and open incision, except in the inveterate deformities in those of more mature years, or in adults, will seldom, if ever, be required.

The clinical notes and photograghs of ten cases were then given, in which the treatment by excision of the astragalus had given results that could be attained by no other method with which the author was acquainted. The following *résumé* of these cases was given:

The records of these cases present fifteen excisions of the astragalus for congenital equino-varus upon ten patients. With one exception all were males. Five had been unsuccessfully treated in infancy or early life by tenotomy, tarsectomy, or otherwise. In four cases both feet were operated upon at the same time. Four of the patients were under two years of age. The others were respectively aged, three, four, six, seven, fourteen, and sixteen years. The line of incision extended from an inch or so above the external malleolus to near the base of the metatarsal bone of the fourth or ring toe, crossing the most prominent part of the astragalus. The tendo Achillis was always sectioned. No vessel required ligation. The peronei tendons were not involved in the operation. A few strands of catgut were inserted in the wound to secure drainage. Strict antiseptic precautions were observed before, during, and after the operation. The limb was placed upon a right angle tin splint and kept elevated for at least a day or two. Immediate union followed. The primary dressings were not disturbed until the end of the third, generally the fourth week.

Although, perhaps, sufficient time has not yet elapsed to give a positive opinion as to all of these cases, yet, so far, the results have been more satisfactory than in any former operation for similar deformities in my experience. I believe that we have a better right to expect permanent correction of the deformity after the operation of excision of the astragalus, from the fact that the cause of the obstruction is removed, so that the foot can be brought to a right angle, and the whole of the sole of the foot can be normally placed upon the ground when the patient stands upon it. The motion of the joint is also increased by the removal of the bony wedge which

interfered with flexion. If I have correctly appreciated the pathology of these cases, I think we are warranted in claiming that, by the means proposed, better and more permanent results will be obtained than by any other method which has been proposed for the relief of these complicated forms of club-foot.

It is well, however, to bear in mind that, no matter what form of operation is performed for the correction of talipes, nor how perfect may be the immediate result, the disposition to recurrence of the deformity will continue for a long time from the persistent, unequal muscular action, which demands watchful care to insure a permanent successful result.

Discussion.—Dr. De Forest Willard, of Philadelphia: So far as the ease of the operation and its efficacy of removal of the astragalus in the correction of the deformity in extreme cases of club-foot are concerned, I can agree with Dr. Morton. We should, however, be guarded in the application of this operation to young children under three years of age. It has been my experience, in partial dislocation of the astragalus in young children, to force the astragalus into position. Even in the older cases approaching the inveterate condition, the application of extreme force, with subcutaneous division of all contracted tissues, will often bring the foot perfectly flat on the ground and place the foot at right angles with the leg. If these results cannot be accomplished in this way we must excise bone, take out the astragalus, and do whatever is necessary to bring the foot into the proper position.

Dr. Charles T. Parkes, of Chicago: My experience in the last few years includes thirty-eight cases of club-foot, varying in age from four months to eighteen years. I regard the proposed operation as unnecessary. The method which I have employed has been that of forcible rupture. It sometimes requires the entire strength of the operator to bring the foot into good position. After all resistance has been overcome, the foot is fixed in an over-corrected position and a plaster dressing applied. This apparatus should be applied over two pairs of stockings, the inner of which should be of silk. It is sometimes necessary to repeat the breakage two or three times. The patient is allowed to go about on the plaster case, and it is renewed as necessary. I have not found tenotomy or division necessary.

Dr. J. Ford Thompson, of Washington: I have tried all the various plans of treatment suggested, with varying results. In those cases which do not yield to manipulation or which recur, we should cut everything that is tight. I do not see why such great force should be used when a simple subcutaneous section will relieve the contraction. Force is necessary even after section. I believe that there is a number of cases requiring tarsectomy or excision of the astragalus; I believe that both these operations are well established.

Dr. Thomas G. Morton, of Philadelphia: In the cases in which I have excised the astragalus, the bone has had no relation whatever to the joint. It was completely dislocated, and Dr. Willard's remark in regard to forcing the astragalus back could not apply in these cases. In order to bring the foot to a right angle and to make a useful joint, it is necessary to get rid of the wedge formed by the displaced astragalus. I condemn the use of plaster-of-Paris entirely, for it prevents the necessary massage and attention to the development of the muscles.

Dr. John E. Owens, of Chicago, exhibited an emergency case, containing all the instruments and appliances likely to be needed in the first treatment of a case of accident.

(To be continued.)

This is the season for society meetings, and every man with a paper is sure to be heard.

American Medical Association.

FORTY-FIRST ANNUAL MEETING.

Held at Nashville, Tenn., May 20, 21, 22, and 23, 1890.

(By telegraph to the Medical Record.)

First Day, Tuesday, May 20th—General Session.

The forty-first annual meeting of the American Medical Association opened at eleven o'clock in the Vendome Theatre. The main body of the theatre, having a seating capacity of over a thousand, was more than filled by the members, the private boxes and unfilled portions of the galleries being occupied by the wives and daughters of the delegates.

The meeting was called to order by Dr. W. T. Briggs, chairman of the Committee of Arrangements.

He introduced the Rev. R. R. Wetherspoon, pastor of the First Presbyterian Church of Nashville, who offered the opening prayer.

Then Dr. Briggs delivered an address of welcome on the part of the physicians of the State. "Delegates have come," he said, "from every State in the Union to confer together here, and to renew the obligations which they had taken upon themselves when they were enrolled in the ranks of the medical profession. They had come inspired by no sordid motives, but each anxious to contribute his share to the common treasury of scientific facts. One-third of a century ago the Association met in Nashville, then a city of some twenty thousand, instead of the hundred thousand inhabitants of which it could now boast, but the Association had grown also, and many times as many members had already registered in the first few hours of the session as had constituted the entire attendance in 1857." He greeted the members in behalf of the profession of this State and city, and he promised that when they departed their hands would ache from the strong grasp of Southern hospitality.

Address of Welcome.—In the absence of Governor Taylor, the address of welcome on the part of the State was delivered by State Senator Craighead. He said that this call found him so totally unprepared that he could do no more than extend to all the most cordial welcome that one of the representative States of the Old South could offer. He emphasized the word old because he claimed that it was truly the Old South, and that its present prosperity was due, not to the brains and capital of the North, but was the result of Southern energy, born of necessity.

This speaker was followed by Mayor McCarver, who welcomed the members of the Association on the part of the city of Nashville.

Necessity of National Control in Sanitary Matters.—Dr. Briggs then introduced the president, Dr. E. M. Moore, of Rochester, N. Y., who delivered his annual address. He chose for his subject the necessity of national control in sanitary matters. Hygiene does not receive in this country the attention which it deserves. A certain foreigner once said that Americans cared little for health, and when they lost it they took pills. He was in great measure right, as is shown by the fact that medical men are still therapeutists rather than hygienists. Yet we have no cause to despair, for we are progressing, slowly though it may be, in the right direction. In proof of this assertion the speaker reviewed at considerable length the history of Congressional legislation on sanitary matters since the passage of the first act of that nature in 1796. This act directed the President of the United States to assist the State governments in the execution of the quarantine laws enacted by their respective Legislatures. This was followed at infrequent intervals by other similar laws, their execution, however, being intrusted to the Secretary of the Treasury instead of to the President. This was done because it was this department that was specially affected by the enforcement of quarantine. When State boards of health were first

established they met often with great opposition, but when epidemics came the local boards were found in many cases unprepared to cope with them and then the utility of the State boards was demonstrated. It was through the instrumentality of the latter that the local boards were spurred into activity. But the boards in the different States varied much in their powers, and some States even yet have none, hence arises the necessity for central authority in matters of this nature. Epidemics are not confined to single States, and they can be controlled only by an efficient body having authority to force its measures in all the States. The National Board of Health has a glorious record, and it has seldom fallen to the lot of any association to demonstrate in so short a time its utility. The recommendations embodied in the report of this board are still reliable, and are of use in sanitariums.

Dr. Moore then reviewed the evolution of the Marine Hospital service since its establishment in 1798 to care for sick sailors into virtually a department of the general Government. He spoke of the excellent sanitary work which it did during the prevalence of yellow fever in Florida, and dwelt upon the vast superiority of such a land quarantine station as Camp Perry over the shotgun quarantine usually established by individual communities in the absence of any intelligent and authoritative control.

The work of the Department of Agriculture in restraining the spread of pleuro-pneumonia among the cattle throughout the country, and in studying by modern bacteriological methods the diseases most common among swine, was then referred to. But the control of disease among cattle was not properly the duty of the Secretary of Agriculture any more than disease among men was part of the duty of the Secretary of the Treasury. The minister of finance was not the proper person to protect the health of the community. Disease was like an invading host, and, like such an enemy, was to be opposed by an army. It was customary to speak of the work of sanitary officers as police duty, but it was rather military, and sanitary officers should have military powers. The speaker hoped that the time was not far distant when there would be a bureau of sanitation at the seat of the central Government, whose head should be a cabinet officer. The subordinates under his control should have a sure tenure of office, such as is secured by a commission in the army and navy. He did not think it expedient that this secretary of public health should be a physician any more than the Secretary of the Navy need be a sailor, or the Secretary of War an army officer.

At the conclusion of the address a vote of thanks was extended to the President, with the usual recommendation that the address be published in the Journal of the Association. It was also moved and carried that the suggestions made by the speaker be referred for consideration and elaboration to a special committee.

SECOND DAY, WEDNESDAY, MAY 21ST.

The general session was called to order by PRESIDENT MOORE at 10 A.M.

Prayer was offered by REV. DR. WINCHESTER, Pastor of Christ Church.

The elections to the Nominating Committee were announced.

It was then voted that the title of the Section in Medical Jurisprudence be modified by adding the word Neurology, so that subjects belonging to this specialty might be there discussed. It was also decided to elect a vice-chairman as well as a chairman for each section.

The Address on General Medicine was then delivered by DR. N. S. DAVIS, of Chicago. It was a plea for the abandonment of the reckless use of alcohol and of antipyretics, and especially of the newly introduced synthetic remedies in the treatment of febrile affections. Clinical experience amply proved that their action in reducing fever was but a temporary one, that it was necessary to administer them again and again in order to obtain any continuous antipyretic effect; yet at the present day so great was the dread of high temperature that much of the bedside treatment of disease has become little more than a chemical process.

Treatment of Fevers by Antipyretics.—Practitioners directed all their efforts to the reduction of fever and paid but little attention to the condition of the secretory and excretory functions or to the vital changes liable to take place in the various organs of the body. If fever were the disease and local lesions were only accidental accompaniments of it, then would a specific antipyretic course of treatment be rational. But this is not the case, and it is found that the reduction of temperature does not cure the disease.

Dr. Hood has recently published some statistics of London hospitals which corroborate this assertion. Of over two thousand febrile cases noted, twelve hundred had been treated after the introduction of these new antipyretics; but it was not found that the course of the disease was abbreviated, or that untoward complications and sequelæ were prevented. The value of a remedy in the treatment of an acute general disease must be determined not by its temporary control of one or two prominent symptoms, but by its effect upon the course of the disease as a whole. It has been abundantly proven that these new antipyretics diminish heat production by preventing tissue changes, and by their action on the nerve-centres, and do not lower the temperature by promoting the elimination of heat. They interfere with the functions of the corpuscular element of the blood, as is well shown by the cyanosis which follows their use, and the marked analgesic properties which they possess demonstrates the fact of their action upon the medullary centres. Experiments have furthermore shown that the urea and other constituents of the urine are decreased by the administration of these synthetic antipyretic remedies, but this can come only from interference with most important molecular actions upon which heat production and elimination depend. These drugs find their application in the early stages of sthenic fevers accompanied by pain—in acute rheumatism, for example. But in low forms of continued fever their continued administration can be productive only of harm, interfering with the natural course of the disease, tending to increase the debility and retarding convalescence.

Alcohol in Continued Fevers.—Dr. Davis then spoke of the use of alcohol in the treatment of continued fevers, claiming that its action was similar to that of the internal antipyretics. It diminishes nervous sensibility, reduces temperature, and retards molecular changes. The assumption hitherto has been that alcohol must undergo oxidation in the body, but experiments have shown that this theory is erroneous. He then quoted the statistics of many hospitals in which alcohol was used in the treatment of typhoid fever and pneumonia, and compared them with those of his own wards in Mercy Hospital, Chicago, and of those institutions where alcohol was not given in these diseases. The result of this comparison showed that the mortality from pneumonia and typhoid fever was very much lower in hospitals where alcohol was not employed in their treatment.

In conclusion he said that we must as early as possible remove a patient suffering from a continued fever from the further action of the specific poison. As the living animal organism tends to destroy this poison by its own metabolic changes, we must carefully avoid the use of such remedies as retard those changes and give those which will increase them, as there is a retardation of heat elimination we must increase this by means of the sponge-bath or of the cold pack, both of which exert an extraordinary influence for good. As every specific cause capable of producing fever has a tendency to induce morbid changes in some of the bodily organs, we must early and carefully use remedies whose effect is to

abolish or modify those local developments. Finally, as all acute morbid processes are progressive and have a course marked out by distinct stages, we must adopt our remedies to the different periods of the disease, remembering that what is useful in one stage may be injurious in another. Specific remedies can be of service only in the earliest stages of disease. Indeed, the antiseptics are useful in prophylaxis rather than in the therapeutics of disease.

At the conclusion of the address a vote of thanks was extended to Dr. Davis.

The Rush Monument.—The report of the Rush Monument Committee was then read. It was not of a very encouraging nature, the treasurer stating that but a little over three hundred dollars had been collected during the year, the total amount available for the erection of the monument being less than fifteen hundred dollars. Dr. Gihon hoped on, however, and looked forward to the laying of the corner-stone in Washington during the meeting of the Association in that city in 1892.

The Journal of the American Medical Association.—The report of the Trustees of the *Journal* was then read. It showed an increase in the circulation, the number of subscribers being now 4,570.

Third Day, Thursday, May 22d.

After the meeting had been called to order by Dr. Moore prayer was offered by Rev. Dr. Cave, pastor of the Christian Church.

The Committee on Nominations then made a report recommending the following officers for the ensuing year: *President*, Dr. W. T. Briggs, of Tennessee; *First Vice-President*, Dr. C. A. Lindley, of Connecticut; *Second Vice-President*, Dr. R. C. Moore, of Nebraska; *Third Vice-President*, Dr. H. C. Wyman, of Michigan; *Fourth Vice-President*, Dr. L. P. Gibson, of Arkansas; *Treasurer*, Dr. R. J. Dunglison, of Pennsylvania; *Secretary*, Dr. W. B. Atkinson, of Pennsylvania; *Librarian*, Dr. C. L. Richardson, of District of Columbia; *Address on Medicine*, Dr. E. L. Sherman, of Michigan; *Address on Surgery*, Dr. J. M. Mathews, of Kentucky; *Address on State Medicine*, Dr. W. L. Schenck, of Kansas. The place of the next meeting was designated as San Francisco, and the time the first Tuesday in May. An amendment to the report was offered substituting the name of Washington, D. C., in place of San Francisco. A second amendment was offered substituting the name of Omaha, and a most eloquent presentation of the claim of the latter place was made by a delegate from the Omaha Medical Society. This amendment was lost. Then the amendment substituting Washington for San Francisco was carried nearly unanimously. The report of the Committee as amended was then accepted.

The Address in Surgery.—The Address in Surgery was delivered by Dr. Samuel Logan, of New Orleans. The science of medicine, he said, had made greater advances during the last fifty years than in many centuries before, and it was particularly in the department of surgery that this advance had been most striking. Facts constituted the cases in which progress had been made, and these were found recorded in the proceedings of medical societies and medical journals. The author reviewed the recent literature discussing the relative safety of chloroform and ether in general anæsthesia, and gave rules governing the method of administering these agents. Chloroform should be given largely diluted and very gradually, while ether should be given rapidly and almost undiluted.

Chloroform Narcosis.—The author did not presume to settle the dispute whether in chloroform narcosis there was first respiratory failure or cardiac failure; nor whether the one or the other of the two generally used anæsthetics was the safer.

Antiseptic Surgery.—A brief review was further given of recent advances in antiseptic surgery, the speaker referring especially to a paper in the report of the Marine Hospital Service, in which it was shown how easily a wound might be infected by micro-organisms imprisoned beneath the finger-nails of the hospital nurse as well as of the surgeon.

Various reports of the Secretary, Treasurer, etc., were then presented.

(To be continued.)

Correspondence.

UNCONSCIOUS MONONYMIZATION.

To the Editor of the Medical Record.

Sir: The not uncommon unintentional simplification of anatomical terms by the reduction of the adjective to a prefix, is exemplified in Dr. James Hendrie Lloyd's diagram of an "Anomaly of the Circle of Willis."[1] The left posterior cerebral artery is designated by L. Post Cerebral; the C is a capital, but between it and the *Post* is neither hyphen nor period. The complete series of steps from a polyonym to a mononym would run as follows: 1, Posterior Cerebral; 2, Post. Cerebral; 3, Post-Cerebral; 4, Post Cerebral; 5, Postcerebral.

Such locative mononyms cannot possibly mislead; in like manner, the dionym middle cerebral is reduced to medicerebral, without ambiguity; anterior cerebral becomes precerebral, but the adverbial prefix could hardly be mistaken for anything else than the adjective in question. Analogous terms are Owen's precava and postcava, prefrontal, postfrontal, and medifrontal; the writer's precommissure, postcommissure, and medicommissure, prepeduncle, postpeduncle, and medipeduncle, and the almost universally employed names of certain encephalic segments, *e.g.*, mesencephalon and prosencephalon. An admirable series of locative mononyms may be seen in Dr. William Browning's article, "Vessels of the Brain," on page 232 of the last volume of Wood's "Reference Handbook of the Medical Sciences."

Burt G. Wilder.

IT MAY HAVE BEEN DUE TO COCAINE.

To the Editor of the Medical Record.

Sir: In your issue of May 10th Dr. W. F. Chappel contributes an interesting article entitled "Neurasthenia and Neuralgia from Traumatism of the Nasal Passages."

It seems to me quite possible that many of the symptoms so well described by Dr. Chappel as occurring in his cases following operations upon nasal tissues may be better accounted for by the cocaine which he speaks of using freely in one case, and which it is perhaps fair to assume was used in all. There is certainly a tendency in some patients to become profoundly impressed by even small quantities of cocaine.

In my own hands I have often found the temporary anæsthesia too dearly bought by an intense pain, lasting for hours, or even days, and which I could only account for as being due to the anæsthetic.

In one case the application of a four per cent. solution to the uvula was followed by a most intense pain in the palate and teeth, which lasted for two or three days, and which the patient described as resembling the pain of a frozen member "thawing out."

In a cervix operation there was more pain following, and lasting for several days, than I had ever experienced before or have encountered since. I have had the same experience from the application of cocaine to the female urethra before dilating, and the cervix before curetting.

In cases, too, operated upon by rhinologists, to whom they had been referred by me, the after-pain has seemed to me to have been so out of proportion to the extent of the operative procedure that I have been forced to explain it upon some other hypothesis; and I feel quite

[1] Journal of Nervous and Mental Diseases, April, 1890, p. 225.

convinced that much of the suffering following operations upon the nose is due to the cocaine applied as an anæsthetic; and that many of the symptoms detailed in Dr. Chappel's cases may be similarly accounted for.

That in many cases cocaine may be used with impunity is, no doubt, true; but there are, I am certain, many whose nervous systems are profoundly impressed by it, and whose sensory nerves take their innings, after an enforced idleness, with a cruel intensity.

S. S. Jones, M.D.

809 Lexington Avenue, New York.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 11 to May 17, 1890.

By direction of the President, the Army Retiring Board convened at Fort Leavenworth, Kansas, by War Department order, dated May 10, 1887, published in Special Orders, No. 107, May 10, 1877, from Headquarters of the Army, is dissolved, and War Department order, dated April 26, 1890, published in Special Orders, No. 99, April 28, 1890, from Headquarters of the Army, directing Captain John de B. W. Gardiner, Assistant Surgeon, to report to the President of the Board for examination, is revoked. S. O. 111, par. 10, A. G. O., Washington, D. C., May 12, 1890.

By direction of the President, and in accordance with Section 1,246, Revised Statutes, an army retiring board was appointed to meet at the War Department, in this city, at 11 o'clock A.M., on Wednesday, May 14, 1890, for the examination of such officers as might be ordered before it. Detail for the board: Lieutenant-Colonel Anthony Heger, Surgeon; Major Charles R. Greenleaf, Surgeon. S. O. 110, par. 6, A. G. O., Washington, D. C., May 10, 1890.

Forwood, William H., Major and Surgeon. By direction of the Secretary of War relieved from duty at Fort Snelling, Minnesota, and will report in person on the 27th instant to the Governor of the Soldier's Home, District of Columbia, for duty as attending surgeon at the Home. S. O. 113, par. 11, A. G. O., Washington, D. C., May 14, 1890.

Cronkhite, Henry M., Major and Surgeon. By direction of the Secretary of War relieved from station at Little Rock Barracks, Arkansas, and assigned to duty at Port Lewis, Colorado, at which post he is now on temporary duty. S. O. 113, par. 10, A. G. O., Washington, D. C., May 14, 1890.

Mason, Charles F., First Lieutenant and Assistant Surgeon, now on leave of absence, by direction of the Secretary of War, will report in person to the commanding officer of Fort Logan, Colorado, for temporary duty at that station. S. O. 113, par. 7, A. G. O., Washington, D. C., May 14, 1890.

Byrne, Charles C., Lieutenant Colonel and Surgeon. By direction of the Secretary of War, leave of absence for four months is granted, with permission to go beyond the sea, to take effect on or about June 1, 1890. S. O. 110, par. 3, A. G. O., Washington, D. C., May 10, 1890.

Cherbonnier, Andrew V., Captain and Medical Storekeeper. By direction of the Secretary of War, leave of absence is granted from June 1st, to include October 10, 1890. S. O. 110, par. 4, A. G. O., Washington, D. C., May 10, 1890.

Ewing, Charles B., Captain and Assistant Surgeon. By direction of the Secretary of War, relieved from duty at Washington Barracks, District of Columbia, and will report in person to the commanding general, Department of the Missouri, St. Louis, Missouri, for duty as attending surgeon at those headquarters. S. O. 110, par. 8, A. G. O., Washington, D. C., May 10, 1890.

Johnson, Henry, Captain and Medical Storekeeper, now on duty at the Medical Purveying Depot, New York City, by direction of the Secretary of War, will take charge of that Depot, and perform the duties of Colonel Edward P. Vollum, Surgeon and Acting Assistant Medical Purveyor, during the absence of the latter. S. O. 109, par. 11, A. G. O., Washington, D. C., May 9, 1890.

Vollum, Edward P., Colonel, Surgeon, and Acting Assistant Medical Purveyor. By direction of the Secretary of War, leave of absence for two months is granted, to take effect June 1, 1890, with permission to go beyond the sea. S. O. 109, par. 10, A. G. O., Washington, D. C., May 9, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending May 17, 1890.

Mackie, B. S., Surgeon. Ordered to the Practice Ship Constellation, May 15th.

Lowndes, C. H. T., Assistant Surgeon. Ordered to the Practice Ship Constellation, May 15th.

Fitzsimons, Paul, Surgeon. Detached from the Marion, and ordered home.

Martin, H. M., Surgeon. Granted six months' leave of absence to leave the United States.

Horwitz, P. J., Medical Director. Granted nine months' leave of absence to leave the United States.

Wentworth, A. R., Passed Assistant Surgeon. Resignation accepted, to take effect November 14, 1890.

Herndon, C. G., Passed Assistant Surgeon. Detached from the Enterprise, and to wait orders.

Gihon, A. L., and Kindleberger, David, Medical Directors. Appointed Delegates to represent the Medical Department of the Navy at International Medical College, Berlin, Germany, August 4, 1890.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 17, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	9	4
Scarlet fever	78	8
Cerebro-spinal meningitis	2	4
Measles	392	37
Diphtheria	108	31
Small-pox	0	0
Varicella	10	0
Cholera	0	0

Excretion of Mercury through the Salivary Glands.—At a recent meeting of the German Medical Society of this city, Dr. Weiss reported a case of mercurial salivation in which the greater part of the mercury was elimin ated by the salivary glands, contrary to the general rule.

What is the Difference?—There are to be various congresses of women engaged in different pursuits in Chicago at the time of the World's Fair. In describing what would be done in this direction, one of the committee referred to the members of the different professions as women doctors, female nurses, and lady lawyers.

For the Relief of Earache.—Take five parts of camphorated chloral, thirty parts of glycerine, and ten parts of oil of sweet almonds. A piece of cotton is saturated and introduced well into the ear, and it is also rubbed behind the ear. The pain is relieved as if by magic, and if there is inflammation it often subsides quickly.—*Medical Brief.*

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THE PLACE OF STATIC OR FRICTIONAL ELECTRICITY IN MEDICINE.

BY WILLIAM JAMES MORTON, M.D.,

NEW YORK CITY.

ALTHOUGH I do not care to come forward as a special champion of static electricity in therapeutics, using, as most physicians do, all means at command which I think will cure, still I cannot avoid a certain degree of responsibility in relation to its use, since its introduction in modern form into medical practice, in the United States, followed the reading of a paper by myself before the New York Academy of Medicine, on March 3, 1881, and the exhibition of machines and electrodes which I brought from Paris and furnished as models to manufacturers here.

Struck by its merits and its efficacy, as exhibited at Professor Charcot's clinic, I introduced it to the profession in a public way here in America, with a conservative desire to test its merits and have others do so.

Nearly ten years have elapsed; the therapeutic use of static electricity has extended enormously in medical practice, and it is to be expected that an effort should now be made to ascertain its rightful value. I read, therefore, with great interest, an account of the proceedings of the Academy of Medicine, published in the MEDICAL RECORD last spring,[1] relating to "The Place of Electricity in Therapeutics."

The reader of the paper of the evening, Dr. M. Allen Starr, argued that the attainable curative results of electricity were disappointing, and that static electricity was particularly inefficacious. The general subject was ably discussed, but the special attack upon static electricity has not yet been specifically answered. In a broad way I most heartily agree with the reader's opinion, shared to-day with a multitude of workers in electro-therapeutics as a whole, that electricity has not come up to the claims made for it. But is not the real trouble with the claims, and not with the agent? If the effort to cure all disease by electricity is disappointing, is it not equally so by medicines or other treatment? Is not the progress of medicine mainly distinguished by increased familiarity with the natural history of disease and its prevention or avoidance, and by the discovery and use of new drugs and means to relieve symptoms, mainly pain? To cure organic disease by remedies is yet apparently in a most backward state. Yet this has been expected of electric ity, hence disappointment.

But if, in place of expecting to cure a profound and established organic disease, we turn our attention to symptomatic and functional treatment, to the treatment, among other things, of pain, spasm, anæsthesia, hyperanæsthesia, paralysis, and to nutritive faults, we may still have cause to find that electricity holds a pre-eminent place in medicine. The real question is, What is its value relatively to other therapeutic agents?

This, however, is a digression from the main point of this communication, which is to courteously take issue with Dr. Starr as to his statements concerning the effect of static electricity in particular upon the human body. And to understand his position more fully, we may supplement his views appearing in the RECORD by reference to similar views expressed by him in *Scribner's Magazine* for November, 1889, in an article entitled "Electricity in Relation to the Human Body."

If what Dr. Starr puts forward as facts in regard to frictional or static electricity is true, then I most cordially admit that this form of electricity has no place in medicine. But it is precisely that his statements of fact have no foundation that I think it worth while to point this out, lest, unanswered, they may be accepted as authoritative.

Having stated the well-known observation that electricity at rest, or "static" electricity, resides on the surface of bodies which are charged with it, and having quoted the famous Cavendish or Biot experiment of the insulated sphere and its removable caps to demonstrate this very general statement, Dr. Starr states that the same is true of the human body, and "therefore frictional electricity never penetrates beneath the skin, nor produces directly any effects upon the deeper tissues," though the "giving of the sparks causes a decided irritation of the surface" and produces "indirect effects," such as reddening and a conscious perception, as between the spark and the breeze or spray, that the one is disagreeable and the other agreeable; and also a sudden movement of the irritated part, as, for instance, "one suddenly draws one's hand away from a lighted cigar before one realizes what is touched."

"But the same kind of indirect effects," he continues, "may be produced by any mild irritation of the skin. The general effect of static electricity is, therefore, about the same as that of a cold bath, or the muscle-beating of the Swedes, the lomi-lomi of the Sandwich Islanders, the whipping with twigs in a Russian bath, the needle douche of a Turkish bath, or any other sharp mechanical irritant."

And again. "It seemed strange how much credence was still given static electricity in therapeutics, for its action was limited exclusively to the surface of the body charged; it did not penetrate the skin, could not permanently charge the body, and could produce a curative effect only as a surface irritant or by reflex action." All this, of course, while giving sparks, for this method of administration is assumed or referred to as the one producing the indirect effects, and failing to produce anything more. This is indeed a severe arraignment of static electricity in medicine, and, if true, leaves it no ground to stand upon.

We will meet the situation at once by direct experiment, and by pointing out the incredibility of the statements according to the laws of electro-physics. The main points at issue are covered in by the statement that "frictional electricity never penetrates beneath the skin, nor produces directly any effects upon the deeper tissues," and that its "action is limited exclusively to the surface of the body charged."

A speedy refutation of the exclusive superficial action claimed is found in the following simple experiment: We place in the hand of a fairly muscular subject, standing upon the insulated platform, a weight, say of ten pounds (an Indian club is preferable, since the nearness of a metal weight weakens the spark), and causing him to raise it until his arm is at right angles, we administer a single and ordinary spark to the motor point (or almost any point) of his biceps muscle. The weight is raised half an inch or more, and by successive sparks we may vibrate the weight in unison with the spark. Query: Has not the frictional electricity "penetrated the skin" and

[1] MEDICAL RECORD, April 6, 1889.

caused an "effect upon a deeper tissue," viz., the biceps muscle?

Careful efforts with twigs, douche, cold baths, lomi-lomi, and nearly all the agents mentioned as having "about the same general effects as static electricity," failed in our hands to elicit any visible contraction of the muscle and raising of the weight, and we conclude, what is well-known, that the effects are not comparable except in a most remote manner.

Again, while the subject is seated in a chair upon the platform, we lay a twenty-pound dumb-bell upon the thigh, half-way between the groin and the knee, and give a spark to the motor point of the vastus externus muscle. The dumb-bell is raised half an inch, and this, too, by the bellying or bulging of the muscle, and not by direct pull. The same effect will be produced even if we give the spark to the dumb-bell itself, well illustrating the principle which is at the bottom of all this stimulation of nerve and muscle, viz., that static charge in the act of discharge becomes kinetic, current, or flowing, and traverses the human body as it would any other conductor.

Let us for one moment pause to consider the amount of work done by the spark:

One pound raised 1 foot in 1 second equals 1 foot-pound.
One pound raised $\frac{1}{2}$ inch in 1 second equals $\frac{1}{24}$ foot-pound.
Twenty pounds raised $\frac{1}{2}$ inch in one second equals $\frac{20}{24}$ foot-pound, or, say 1 pound.

A single spark therefore represents a muscular energy expended equal to raising 1 pound 1 foot per second. But I can easily give, say, 5 sparks per second. The muscle therefore raises 5 pounds per second, and to raise 550 pounds (the unit of horse-power) will require 110 minutes, or about 2 hours. The actual work, therefore, capable of being accomplished by the muscle under the stimulus of the spark is at the rate of 1 horse-power every 2 hours, or $\frac{1}{2}$ a horse-power per hour.

That this estimate is very moderate will occur even to our critic, since he himself writes that "the amount of energy in the spark is proportionate to the expenditure of energy in friction." This may be demonstrated experimentally by placing two machines opposite to one another, pole to pole, and turning one when the second will itself begin to turn. In treatment, the product of the machine expends itself upon the patient in a manner to be mentioned later on, and if the man-power turning the crank be resolved into units of horse-power, the above showing would be much increased.

And what is accomplished by a single little spark with the biceps and the vastus externus, may be accomplished with practically every muscle in the body. A spark to the deltoid throws the arm out from the side of the body, and, what is equally interesting, throws the entire shoulder group of muscles into contraction, so deep and widely diffused is the effect. Thus, also, a spark to the anterior region of the thigh will throw its entire mass into contraction. Each smaller muscle may be sought out and caused to contract just as it would, under similar circumstances, by the interrupted galvanic or the faradic current.

All this seems too trite to say; everybody who has used static electricity knows it, and it is certainly a most interesting neurological anomaly to have denied it.

Dr. Starr seems to have confounded, as I have already intimated, frictional electricity at rest with the same in motion—in the former state truly "static," in the latter "kinetic," or flowing in conductors, and most powerful to stimulate nerve and muscle and produce contractions, as well as to excite nerves of special sense.

Physiologically as well as in practice, it is well known that the muscular tissue is exceedingly sensitive to the feeblest discharges of static electricity. The sparks of a distant frictional machine set the frog's legs in contraction which drew Galvani's attention to the new form of electricity.

And again, the Abbé Nollet [1] convulsed the arms and shoulders of an entire regiment of 1,500 men by causing them to join hands in line, and then completing the circuit by a spark of static electricity from a Leyden jar, just as in our present methods of administration, except that we do not require as strong an application. The ordinary ball electrode represents one tinfoil coating of the jar, the air the glass dielectric, the charged person the other coating; when the discharge or spark occurs the differences of potential are equalized by an instantaneous flow of electricity throughout all portions of each charged conductor, and if the electrical continuity of our tinfoil coatings happen to be extended to a regiment of men or to the biceps muscle, the effect will be to "penetrate the skin" and affect deeper tissues.

That frictional electricity, when static, resides upon the surface is one way of making the statement. To avoid argument we will admit it. We will say, then, that the person sitting upon the insulated stool receives the electric charge upon the surface.

But while bringing forward one fundamental law of electricity, Dr. Starr ignores another one equally fundamental, which is that the potential at all points of a conductor on which electricity is at rest must be uniform; if it were not, there would be a flow between the two unequal potentials until it became uniform; hence the potential inside a conductor has the same value as at any point on the surface.

It follows that at the moment of discharge (spark) the equalizing of the potentials proceeds from and to all parts of the conductor (human body), inside and outside, and we here have the current which produces the effects on nerve and muscle. And the conducting power of the charged conductor is proportional, not to the surface, but to the mass of the conductor, for a solid rod of a given diameter will convey a current which would melt a thin tube of the same diameter.

Given, then, a surface charge upon the body, and the first spark changes the entire situation. The spark is a current, but it is only the air part of the current—the evidence of the breaking down of the strain in the fluid dielectric; the remaining continuity of the current is *in* the patient's body, not *on* it (for the potential is uniform), in the chain going from the platform to the machine, and so on up to the initial electro-motive force of the Holtz machine, and around again in a closed circuit to the ball electrode which gave the spark. The conditions do not vary essentially from those existing in a galvanic cell or a storage battery. When we close the circuit we get the current, and it is this current which, localized by an electrode, traverses the human body at any desired point—a current of, say, 50,000 volts as against 1 volt of a Daniels's cell—put to work to overcome the resistance of, say, 2,500 ohms of the body; a resistance so trivial in comparison with the voltage or pressure that it may be disregarded entirely—a current oscillating (alternating) 100,000 to 1,000,000 times per second, compensating, as regards its physiological activity, for its loss in quantity, by its enormous electro-motive force and by its exceeding rapidity. The wonder would be that nerve and muscle and all tissues should not be stimulated. The fact is that they are. And Dr. Starr's entire structure, based upon static charge, falls to the ground in the light of the discharge and its accompanying current and physiological effects, and he should alter his apparently thoughtless dictum and write, "frictional electricity, as commonly administered, penetrates beneath the skin and produces directly effects upon the deeper tissues."

In conclusion, to leave facts and venture a single opinion, I believe that no form of electricity "penetrates" more deeply than the static; and, premising a powerful machine, a powerful spark, a conservative expectation as to results, a fair comparison with galvanism and faradism, an intelligent selection of cases, and a fair amount of skill in administration, I believe that no form of electricity equals it in curative effect.

[1] Ganot's Physics, page 676.

FRACTURES OF THE MAXILLARY BONES. A NEW METHOD OF TREATMENT.

By EDWARD H. ANGLE, M.D.,

PROFESSOR OF HISTOLOGY, COMPARATIVE ANATOMY, AND ORTHODONTIA I THE DENTAL DEPARTMENT OF THE STATE UNIVERSITY OF MINNESOTA.

Muscular contraction is a most difficult obstacle to overcome in reducing and maintaining in proper apposition most fractured bones. Especially in the case of the femur and patella is this force so great, so constant, and so difficult to antagonize, that probably the ideal or normal result is never attained.

In fractures of the inferior maxilla it is equally a most serious hindrance in the way of obtaining a union of the parts, and should always be carefully considered in the construction of an appliance for this purpose; indeed, this obstacle, taken in connection with the large number of movements to which the human jaw is susceptible, and the great number of causes which contribute to the production of these movements, renders this the most difficult bone in the entire human frame to maintain in perfect apposition during the healing process.

This fact is well evinced by the innumerable devices and appliances which have been recommended for the purpose. The methods I have adopted in treating fractures of this bone have been so successful and the results so gratifying, that they seem to approach in efficiency and simplicity more nearly to the ideal than anything yet devised.

In order that this system of treating fractures of the maxillary bones may be more easily understood I will divide these injuries into three classes.

The first class comprises all simple fractures in which the teeth are good and sufficiently sound and firm in their attachments (especially on each side of the fracture), to afford good anchorage for the appliance which supports the fracture.

The second class comprises all fractures where the teeth are unsuited, by disease or any other cause, for anchorage, but are sufficient to give correct articulation of the jaws, when they are in proper adjustment.

The third class comprises all fractures of jaws which are edentulous. The following cases, treated by myself, will enable the reader to comprehend the method peculiar to each class.

Case I. will illustrate the first class. May 29, 1889. Nels ——, aged twenty-one, was admitted to the Saint Anthony Hospital of this city. He had fallen from a pile of lumber, a distance of fifteen or twenty feet, and besides severe bruises, suffered a simple fracture through

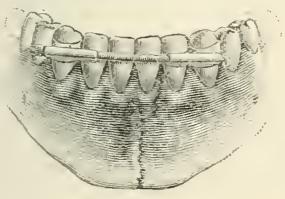

Fig. 1.—Anchor Splint.

the symphysis, terminating, however, in front between the central and lateral on the left side, as shown by the line in the engraving (Fig. 1.). Upon examination I found that the fractured bone was quite widely separated at the top, and that the left central incisor was loosened. The following treatment was practised: First, the ends of the fractured bones were placed in their proper position and temporarily fastened by lacing the teeth with silk ligatures.

Second, bands of very thin German silver were made to encircle and accurately fit the cuspid teeth. A small tube of German silver, one-half inch in length, was soldered to each band and in exact alignment; a piece of wire accurately fitting the bore of these tubes, bent at right angles at one end, and having a screw cut upon the end was slipped through each tube and secured therein by adjusting a nut on the screw. The bands were cemented in position upon the teeth by means of oxy-phosphate cement, as shown in Fig. 1. After the cement had become thoroughly set, the nut was tightened until the fractured ends of the bone were drawn snugly together.

These bands, tubes, wires, screws, and nuts are some of the appliances known as the "Angle Regulating and Retaining Appliances" devised and used for the purpose of correcting irregularities of the teeth, as shown in Fig. 2. They may be made by any ingenious dentist, or procured from any dealer in dental goods.

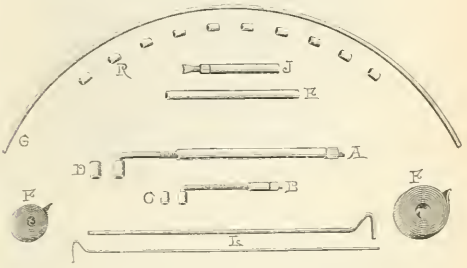

Fig. 2.—Angle's Regulating and Retaining Appliances.

The appliance was worn without displacement or trouble for twenty-one days, when it was removed, the bone having become firmly united. I may add that, during the time the appliance was worn, so firmly was the jaw supported, the patient suffered little if any inconvenience, and, after the third day, partook regularly of his meals, using his jaw freely, and only avoiding the hardest particles of food. After removing the appliance a careful impression of the jaw was taken, a model made, and the appliance transferred to the model, exactly as shown in the engraving. The lower part of the jaw is, of course, diagrammatic, as added by the engraver to show the line of fracture.

It should be borne in mind that the principle upon which this appliance is based is not the same as that which is operative when the teeth are simply wired together. It is very different. For in wiring, the upper part of the fracture only is tipped or drawn together, and no pressure or support is given to the lower part; while in the principle applied here, it will be seen that, because the bands and pipes are rigidly attached to the anchor teeth, tipping is impossible and pressure is exerted equally upon both parts (upper and lower) of the fracture, as they are drawn together by the screw; or, as my friend Dr. Charles G. Brown (who first suggested to me this use of the screw), puts it, "It is a Malgaigne splint, if you please, except that the hooks are not foreign bodies." This device may be applied in any locality on either jaw, provided suitable teeth for anchorage be not too remote from the line of fracture. The screw may be bent to accommodate the curve in the jaw should the fracture occur in the region of the cuspid.

Case II.—The method applied to cases of the second class may be understood from the treatment in the following instance: On July 4, 1889, William F——, aged forty-five, was admitted to the Minneapolis City Hospital. A blow from a policeman's club had produced two simple fractures of the inferior maxilla. The first was an oblique fracture of the right side, beginning with the socket of the second bicuspid, extending downward and backward, involving the socket of the first molar, breaking out the second bicuspid and greatly loosening the first molar. The second molar had been lost years before, while the third, as well as the remaining teeth, were much abraded and loosened by salivary calculi, thus making the application of the appliance described in Case I.

impossible. The second fracture was situated on the opposite side high up in the ramus. Because of the swollen condition of the parts, I could not detect the exact line of cleavage, but the grinding of the ends of the bone and the great pain occasioned thereby were unmistakable evidences of a fracture. The patient, as in all such cases, was unable to close the jaws. The fracture on the right side was widely separated and the anterior piece was much depressed by reason of the contraction of the digastric muscle, while the posterior piece of bone was

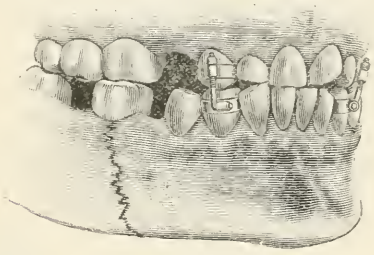

Fig. 3.

drawn firmly up, the molar teeth occluding. The following treatment was used: Bands were made to encircle all four of the cuspid teeth, they being the most firmly attached in their sockets. The fractured ends of the bones were placed in careful apposition, the lower jaw was closed carefully, occluding the lower teeth upon the upper, and requiring so great force and occasioning so much pain, that the use of an anæsthetic became necessary. Points on the bands required for the necessary attachments were carefully noted. The bands were then slipped off the teeth, and little pipes (shown at C, Fig. 2) were soldered at the marked points, after which the bands were cemented in their proper positions upon the teeth, and two small traction screw wires, the same as shown at B, Fig. 2, were slipped into the pipes. The jaws were closed and the nuts tightened on the screws, until the jaws were drawn firmly together, and each tooth occupied its exact normal position in occlusion with its fellow of the opposite jaw. Both fractures were then carefully examined and found to be in perfect apposition, and presented the appearance shown in Fig. 3. How could it be otherwise? for the most natural position for the jaw and the muscles involved had been secured, and all were in their natural places of relaxation and rest.

During an attack of coughing, in the night following, one of the bands was wrenched loose, but was replaced the next day without trouble. No further accidents occurred. The patient readily took nourishment through the spaces between the teeth. Thus the fractured jaw was firmly supported without the least motion for twenty two days, when the appliance was removed, showing most excellent results.

That the patient was a great lover of the clay-pipe was shown by the much worn condition of the lateral incisors, which had resulted from holding the stem of the pipe. While wearing the appliance he was not deprived of his favorite comfort, but was compelled to grasp the stem between the lips instead of the teeth.

Case III.—The following case possesses several points of special interest, although the fractures occurred in regions similar to the case just described, because the appliances, although involving similar mechanical principles, will be found to be greatly simplified.

December 28th Thomas B—— was admitted to the Dental Infirmary of the State University of Minnesota suffering from the effects of a blow received on the left side of the jaw, from a cant-hook, while working in the lumber-camps of Wisconsin, which had produced fracture of the jaw in two places. The first was on the left side, beginning between the first and second bicuspids, and extended downward and backward so far as to involve the lower part of the anterior root of the first molar. The second was on the right side, directly through the angle of the jaw. The fractures had occurred thirty-two days previous to his admission to the Infirmary, during which time nothing had been done to reduce them. He reported that he had called upon a physician, who supposed the trouble was merely an abscessed tooth, and had lanced the gum with the view of reducing the swelling. Later the patient had called upon a dentist in one of the smaller towns, who also failed to diagnose the fractures, and extracted both bicuspids in the hope of giving relief.

Upon examination I found considerable swelling in the region of these fractures, with the usual result, the patient being unable to close his mouth by reason of the fact that the anterior piece of the fractured bone was drawn down by the contraction of the depressor muscles.

Fig. 4.—Angle's Fracture Bands

A false joint had also been established. The bones could be easily worked without causing pain.

At the point of fracture of the right side there was little or no displacement; the swelling was also slight. With the assistance of Professor Leonard, the patient was anæsthetized; the ends of the bones were then rubbed forcibly together with the view of breaking up the false attachments and stimulating activity in repair.

The ends of the bones were now placed in perfect apposition, and the jaw closed, taking great care to articulate the teeth in their correct position against the upper ones.

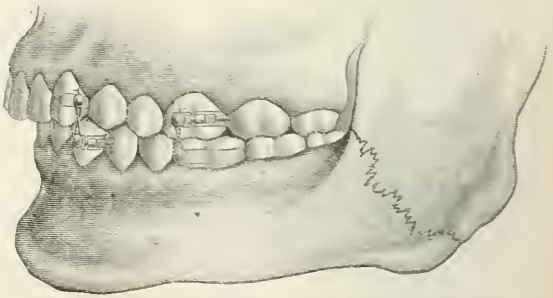

Fig. 5. Fracture Reduced.

The jaw was now firmly bound in this position to the upper teeth in the same manner as described in Case II., only that the method was improved upon by using clasp bands as shown in Fig. 4

No cement was necessary, and, instead of the screws, small metallic buttons were soldered to the sides of these bands (as shown in the cut) around which was wrapped, in the form of a figure eight, fine binding wire, as shown in Fig. 5.

Four bands were used, encircling the four cuspid teeth. Those bands shown upon the molar teeth in the engraving, were not used, but are so displayed for the purpose of illustrating their use in cases which might demand their employment. At the end of seventeen days the bands were removed and the patient discharged, the bone having become firmly united.

It might be urged as an argument against this method that the teeth being closed and the jaws being firmly bound together, the patient would be unable to take sufficient nourishment. This, however, is untrue, for it rarely happens that a patient is found without some teeth

missing, thereby leaving abundance of space for the passage of the liquid foods; and even if all the teeth were sound and in perfect position, it has been proven that there is plenty of space between the teeth and behind the molars and between the upper and lower incisors for taking all necessary nourishment. Of course in such rare cases much more time would be required in taking food; but this obstacle is greatly compensated for by the main points of advantage in its favor, such as (1) cleanliness; (2) comfort to the patient, as compared with many other bulky and awkward appliances; (3) its extreme simplicity, enabling any one, with ordinary mechanical ability, when provided with a set of clamp bands, to easily and quickly set all ordinary cases of fracture; and last (4), the certainty of correct results. These will, I think, be sufficient reasons for all those who are interested in this branch of surgery to give the method a trial.

Cases coming under the third class, comprising fractures of edentulous jaws, are fortunately very rare. The method of treatment I propose in such cases is similar in principle to that already discovered in the first class; only in place of the teeth, small bone-hooks are used; a suitable cavity for their reception being drilled on each side of the fracture, coincident in position with the original sockets of the teeth, as if the implanting of teeth were intended; save that the cavities thus made need not be nearly so large or so deep. They should also be drilled obliquely to correspond to the course taken by the hooks. The hooks before insertion should of course be made aseptic.

INTRA-OCULAR HEMORRHAGE CONSECUTIVE TO CATARACT EXTRACTION OR TO IRIDECTOMY FOR THE RELIEF OF GLAUCOMA.[1]

By HIRAM WOODS, M.D.,

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Miss T——, aged fifty-six, in robust health, applied to me in June, 1889, for relief from what she termed "sudden loss of sight in the right eye." Examination revealed a mature cataract. Her sudden loss was only a sudden discovery of a loss of long duration. There was good light perception, and the pupil dilated and contracted normally. There was no defect in the left eye. Operation was suggested as the only means of restoring sight to the right eye, but not urged because of the perfect vision in the other. She refused to consider this at all. Her next visit was in August, nearly two months after she first consulted me. She now complained of having had for two or three weeks neuralgic pains in the right eye and temple, for which she had taken quinine. There were present decided premonitory symptoms of glaucoma—a moderately dilated pupil, showing sluggish response to light, and increased tension of the eyeball. The scleral vessels were not enlarged; I greatly regretted not having noted the tension of the eye at her former visit in June. There was then, however, nothing to suggest glaucoma.

The patient could not remember the occurrence of any of the prodromic symptoms prior to her recent attacks of neuralgia. She was urged to have the right eye iridectomized at once, but refused. She was given a solution of eserine (gr. j. to aq. dist. ℥ j.), to be used twice daily. For a fortnight this contracted the pupil, and she did not suffer from the pain in the eye and temple. I could never detect any improvement in the tension of the eye. Early in September her "neuralgia" became severe, and the attacks occurred almost daily. She persisted in taking some neuralgic remedy she had, and declined to listen to advice pointing toward an operation. I did not see her for a week, and during that time she discontinued the eserine. She came to my office on the morning of September 17th. She had no pain then, but had suffered the day previous. The pupil was moderately dilated, with feeble response to light. She now consented to an operation, which I performed at her home the same day, being assisted by my friend Dr. Robert L. Randolph. Before operating I told her the chances of giving her good vision were not great; that the operation might fail entirely to stop the disease, and that the best to be hoped for was that such power of vision as the eye already possessed—minus the cataract—might be retained; that I thought this was probably less than in June she also knew.

An important question was whether or not to extract the cataract with the iridectomy. Provided its removal would not imperil the eye, there were certain advantages in doing both operations at the same time. The patient was exceedingly hard to manage, and very impatient of restraint. She was specially desirous that the cataract should be removed. The case seemed to me to be about this: It was necessary to perform an iridectomy for the reduction of tension; it was desirable to remove the cataract, if it could be done safely. I thought the removal of the lens would effect a greater reduction in tension than would the iridectomy alone, and that this might be of benefit. It also occurred to me that this reduction might be too great, and possibly be followed by intra-ocular hemorrhage—an accident I had never witnessed but had occasionally seen reported. I had given the matter considerable thought before the day of the operation, and had decided that the removal of the lens would not lessen the chances of success for the following reasons:

1. The trouble in the eye appeared to be the old mature cataract, and certain premonitory symptoms of primary glaucoma. There were present none of the conditions which produce secondary glaucoma, and which give the operator a poor eye to start with. The cornea was clear, the anterior chamber was of normal depth, there were no enlarged vessels on the sclerotic, light perception was good, and, although the tension was certainly increased, the eye could not be called "hard." While it was impossible to examine the right retina, that of the left eye was healthy. From this fact and from the clinical history it seemed fair to infer that there was no right apoplectic retinitis—a condition usually thought to make even an iridectomy for glaucoma dangerous, because intra-ocular hemorrhage may occur after the tension has been removed from the diseased blood-vessels.

2. The patient's general health was excellent. There was no organic disease of any kind. The vessels were neither hard nor atheromatous.

3. A little over a year previous there had been a case at the Presbyterian Eye and Ear Hospital which in some respects resembled my own: if anything, it was even more unpromising. One eye showed glaucomatous excavation of the disk, with numerous spots of apoplectic retinitis. In the other there was a mature cataract, with good light perception and increased tension. Professor Chisolm removed the cataract and performed iridectomy at the same time, the patient making an uninterrupted recovery, and obtaining $\frac{2}{0}$ distant vision. These considerations and this observation led me to decide to operate as I did. In the light of the deplorable result they can be easily overruled. At the time, however, they seemed sufficient to justify my course.

The operation was performed after the usual method of cataract extraction. The anæsthetic used was a four per cent. solution of cocaine. The corneal incision was made upward with a Graefe's linear knife. The anterior chamber filled with blood after the corneal incision. I am sure this blood came from the conjunctival vessels. It was easily coaxed out, and the chamber did not fill again. The patient, in spite of being warned to keep still, even if there was a little pain, made a decided jump when the iris was grasped. She was persuaded to keep quiet, and

[1] Read before the Clinical Society of Maryland, December 6, 1889.

the iridectomy was satisfactorily completed. There was no hemorrhage from the iris. The expulsion of the lens was easily effected after cystotomy. No vitreous was lost. All the instruments used were taken directly from a cup of boiling water, and before the operation the lids, ball, and conjunctival sac were carefully cleansed with a 1 to 4,000 corrosive-sublimate solution. When the operation was completed everything looked satisfactory. A double compress bandage was applied, and the patient walked to her bed in the next room, a distance of not more than twenty feet. At the hospital our patients always walk from the operating-table to their beds, whether on the same floor or on one above. I am not able to persuade myself that this walk had anything to do with the consecutive hemorrhage. Two hours later she was resting comfortably. When I visited her the following day she told me that she had been awakened during the night by a severe pain in the eye. As nearly as she could fix it, the time of this pain must have been seven or eight hours after the operation. On removing the bandage I found the cotton and gauze had been soaked with blood. There was a clot between the lids, and, on washing this away, another was found between the lips of the corneal wound. The patient was still suffering, and asked that leeches might be applied to her right temple. This was done, with excellent results, as far as the pain was concerned. A little oozing from the eye continued for a day or two, when it ceased. A mass of intra-ocular tissue filled up the corneal section, the protrusion being noticeable beneath the upper lid. The black pigment of the uveal tract could be distinctly seen. A firm compress bandage has been kept on since the operation. She has not suffered much—indeed has been quite comfortable. The protrusion from the corneal wound has nearly disappeared, and the ball has shrunken. The cornea is clear, there is some anterior chamber, and the outlines of the pupil can be followed. The pupil is partially closed by what looks like an opaque capsule. There is light perception, and she claims to be able to sometimes see objects in the room. I hope such is the case, but I doubt it.

During the twelve years' existence of the Presbyterian Eye and Ear Hospital (up to January, 1889) there have occurred at the institution two cases of intra-ocular hemorrhage after operations upon the iris or lens. One followed cataract extraction, the other an iridectomy for the relief of glaucoma. During these twelve years there were 910 cataract extractions and 135 iridectomies for glaucoma alone. Professor Chisolm operated upon both of these cases, and has kindly furnished me the following notes:

A man, fifty years of age, was treated at the hospital ten years ago. He had double corneal clouding from old ulceration. There was no anterior synechia or staphyloma, and not a suspicion of secondary glaucoma. In each eye was a mature cataract. He was told that the visual results could not be great on account of the corneal opacities, but that some benefit might ensue from the removal of the cataract. The operation was performed under the anæsthetic influence of chloroform. During the entire operation there was neither vomiting nor muscular movement. Iridectomy was done, and the operation was in every way normal. The lids were closed, and a piece of linen put over them. Before applying the cotton pad and bandage it was noticed that the linen was more saturated with liquid than was usually the case. Lifting the linen and opening the lids it was observed that the hyaloid membrane had burst, that the liquid vitreous had gushed out, and was about being followed by hemorrhage, which was soon established—the blood pouring through the corneal wound. The patient was still chloroformed and perfectly passive. Dr. Chisolm adds: "Knowing that the eye was lost, and panophthalmitis most likely to ensue, and having prepared the patient in advance for possible failure, I felt my best service to him was to save him the many days of suffering, great swelling, and tedious convalescence which belong to panophthalmitis. I therefore proceeded at once to enucleate the hemorrhagic eye."

The other case was that of a girl, aged twenty, who was afflicted with double chronic glaucoma. The right eye had less sight than the left. She desired an operation upon one eye, and the right was selected. Chloroform was administered, and during the entire operation the patient was perfectly quiet. There was no vomiting. The operation was smooth. Before the bandage was applied hemorrhage ensued. The lens was displaced, and the eyeball filled with blood which escaped from the wound. She was allowed to recover from the chloroform and the condition explained. Two days later the ball became painful and the conjunctiva chemotic—the early symptoms of panophthalmitis. The eye was then enucleated. Several days after this the other eye was iridectomized, the operation preserving sight, which is still good. Dr. Chisolm's record does not state that there were no spots of apoplectic retinitis in this eye, but from this fact, as well as from his clear remembrance of the case, he is sure the retina was not diseased. The patient was under his care eight years ago.

When I read this paper before the Clinical Society of Maryland, my friend Dr. E. H. Kuykendall, then Resident Physician at the Presbyterian Eye and Ear Hospital, narrated a case which occurred last spring at the hospital. It is so instructive that I have asked the doctor to give me notes of it, which he does as follows: Mrs. K——, sixty years of age, had been operated upon for cataract in the right eye, some four years past, by a prominent specialist in this city not connected with the above hospital. "From the moment of the operation she suffered dreadfully for several days, when the eye was removed." This was the history she gave. Examination revealed a mature "black" cataract in the left eye. She desired to have this removed. There was good light perception and normal tension. The lens was removed by Dr. Chisolm, with iridectomy, under cocaine. The operation was without complications. After the application of the bandage the patient was led to her bed in the next room, and told to keep quiet. This was between three and four in the afternoon. She was comfortable when the doctor made his rounds in the evening, and stated the next day that she had slept well during the night. Shortly before eight in the morning—*sixteen hours after the operation*—the nurse heard her cry out that "the eye had burst." The doctor saw her within a half hour. She said to him: "Doctor, my sight is gone. The eye has burst, just as the other one did." On removing the bandage a large clot was found between the lids, and filling the corneal wound. Panophthalmitis did not ensue, and the patient left the hospital two weeks later, hopelessly blind.

The only other case I have known to occur in this city was narrated at this meeting of the Clinical Society by Dr. A. Friedenwald. In this case the hemorrhage occurred almost immediately after the extraction of an uncomplicated cataract.

Now and then a case appears in the journals, one in the September number of the *Archives of Ophthalmology*, showing that this hemorrhage may endanger life. The reporter is Dr. Baldwin, of Montgomery, Ala. The patient was a healthy colored woman, sixty-three years of age. The flow of blood commenced while she was still on the operating-table, and soon became so excessive as to cause serious exhaustion. The hemorrhage was only checked after eight hours' use of iced compresses. Panophthalmitis speedily followed.

So far as I know our text-books either neglect this matter altogether, or allude to it so casually in the discussion of another subject as to attract but little attention. Soelberg Wells is more direct than other authors. Discussing secondary glaucoma, he says: "Glaucoma may also complicate diseases which stand in no causal relation to it. Thus it may supervene upon senile cataract. . . . The cataract should never be

removed at the same time that the iridectomy is made for the relief of the glaucoma, for in case any vitreous humor should be lost during the extraction of the lens it might very easily give rise to severe intra-ocular hemorrhage." In discussing cataracts he speaks of occasional hemorrhage into the vitreous after extraction. The eye is usually diseased if this accident occurs.

Two interesting and instructive articles upon the subject are those of Dr. A. Fage, interne of Badal's Clinic, at Bordeaux, and of Dr. Warlomont, of Brabant. The former is in the *Archives d'Ophthalmologie* for July and August, 1889, and the latter in the *Annales d'Oculistique* for July, 1883. Fage reports a case occurring in Badal's practice. The cataract was of the uncomplicated senile variety, and the extraction was not marked by anything abnormal. The patient became conscious of the eye being wet shortly after his return to bed. Four hours later the bandage was soaked through with blood. Badal enucleated the eye ten days later, on account of panophthalmitis. Fage describes the following varieties of hemorrhage during and after cataract extraction. 1. The filling of the anterior chamber with blood from the conjunctival vessels—a perfectly harmless and common occurrence. If iridectomy is done, obstinate hemorrhage may take place from the iritic blood-vessels, "when, for any reason, the divided vessels do not retract after their section." Among the causes of this he mentions chronic iritis, atheroma, and rheumatism. Neither of these hemorrhages is at all serious. 2. Bleeding may also take place from the degenerated iritic vessels on account of some jar given the eye or movement of the patient in bed. 3. The dangerous class of intra ocular hemorrhages are those in which the blood comes from the posterior blood-vessels. These are specially apt to occur after the removal of glaucomatous cataracts. "This hemorrhage," he says, "finds its explanation in the alteration of the vessels of the eye existing at this time, and in the sudden diminution of tension which follows the opening of the eye-shell; but we see also this accident occurring immediately after the delivery of the lens, with persons whose eyes seem to present nothing abnormal." Fage examined the eye enucleated by Badal. He found that the blood had forcibly separated the sclerotic and choroid, and that the starting-point of the hemorrhage had been in the choroid. Microscopic examination showed the choroidal vessels to be perfectly healthy, except that they were gorged with blood. There was no degeneration of any kind in the walls.

Warlomont's experience was a peculiarly sad one. In April, 1883, he removed an uncomplicated cataract from the eye of a healthy woman, making a small inferior incision with iridectomy.

The operation was easily performed. Not a particle of vitreous was lost. On her way to bed, on the floor below the operating-room, the patient was attacked with nausea and vomited; "at the same time," he says, "she felt the operated eye become wet, and the nurse saw that pieces of the dressing were stained with blood, which very soon ran in a stream down the cheek." Warlomont enucleated the eye at once. The eye was examined by Dr. Van Duyse, of Ghent. He reported that in all probability the hemorrhage had started from the interstitial vessels of the choroid, and had become retrochoroidal, especially in the upper and anterior portion of the globe; that the membranes had been pushed downward and forward toward the corneal wound; that in this way the mass of blood between the choroid and sclerotic had caused the expulsion of the entire vitreous body, with the detached retina and choroid. The ciliary bodies and iris shared the same fate, the intra-ocular tissues being thus pushed into the corneal flap. Histologically the choroidal and retinal vessels showed nothing abnormal, except that they were greatly gorged with blood. He adds: "Nothing, then, in the histological examination furnishes an appreciable contra-indication to an operation by extraction upon the second eye." Warlomont thought over the case in the light of this report. He seems to have concluded that the mechanical effects of the vomiting or jar in walking down-stairs might have had a great deal to do with the hemorrhage. Taking all possible precautions against these influences, he decided that an operation upon the other eye was justifiable.

On July 16th Lebrun extracted the cataract by his median corneal incision, this being chosen so as not to invade any vascular part of the eye. No iridectomy was performed. After the natural and easy delivery of the lens, the vitreous was seen to bulge up against the cornea, but there was no prolapse. The patient was carefully moved to her bed, placed at the side of the operating-table, and did not leave the horizontal position. Previous to this a compress bandage had been applied. Within a few minutes intra-ocular hemorrhage ensued, destroying the eye.

There are three important factors in the treatment of such cases. 1. Is prophylaxis possible? Is there any way of diagnosticating, before operation, the existence of danger of intra-ocular hemorrhage? Warlomont thinks we should suspect eyes that are "hard, over the sclerotic of which run tortuous veins" ("glaucomatous" eyes), . . . "whose iris adheres at certain points to the capsule, and which often inclose a fluid vitreous body and an altered choroid." He does not say, Do not operate upon such eyes, but in doing so to use compression and to avoid the least possible shock. Some authors think posterior staphyloma is a condition to be mistrusted. Dr. Chisolm's case would indicate that a history of old corneal ulceration is to be regarded with suspicion. Increased tension, then, and fluid vitreous seem to be danger signals. Unfortunately our means of diagnosticating the latter condition are not great when the pupil is clear; when it is shut up by a cataract they practically amount to nothing. Prophylaxis, then, is an impossibility, unless one regards every case as suspicious and treats it accordingly. Even then, when he meets the eye with a hemorrhagic tendency he will probably lose it, as did Lebrun in the case cited. Warlomont concludes that "with nothing to indicate it, certain eyes cannot undergo the removal of the crystalline system without the place becoming vacant by this removal being immediately occupied by the vitreous body, pushed forward, occasionally followed, by the sclerotic, this resulting in the rupture of perfectly healthy vessels."

A second question in the treatment is, What to do with the hemorrhagic eye? In most instances panophthalmitis ensues, and a speedy removal will save the patient much suffering. When it is certain that the eye has been destroyed, enucleation should be done at once. Such certainty was absolute, for instance, in the two cases I have reported from Dr. Chisolm's practice. The lens and vitreous were seen to leave the globe, followed by blood. Nothing could possibly be gained by delay. But the loss is not always so sure. Fage gives three remarkable observations, published by Dr. Armagnac in the *Revue clinique d'Oculistique du Sud-Ouest*, 1884. I have not been able to get Armagnac's article, but Fage quotes him as follows: "Not only could the eye be saved, but vision was satisfactorily restored, equal to one-fourth in the first case, in the second allowing the patient to devote himself to farm labor, and in the third, on the authority of Dr. Magné, permitting the patient to read with a glass of 15 diopters" (convex $2\frac{7}{9}$) "No. 1 of the test-types." It is hard to see how such restoration could take place if the blood came from the choroidal vessels. If the hemorrhage occurred from the anterior vessels of the eye, it might be possible, if the vitreous chamber was not filled with blood. In view of the uncertainty attending the diagnosis when the hemorrhage occurs, not on the operating-table, but after the patient has gone to bed, Fage advises, on the authority of Badal, to postpone enucleation until "it has been demonstrated that the eye is positively lost;" in other words, until the early symptoms of panophthalmitis appear.

A third, and immensely important, question is this: If an eye has been lost by intra-ocular hemorrhage after the removal of a cataract, and one exists in the fellow-eye, what course of treatment should be followed? The case of Warlomont and Lebrun, and the one furnished me by Dr. Kuykendall, are very significant. They show that, whatever the underlying cause of this hemorrhage, it almost certainly exists in both eyes. How can the cataract be removed with the least possible danger? Fage quotes Abadie[1] as proposing "continuous compression of the carotid for twenty-four hours." In case this is impracticable, he himself suggests "previous injections of ergotine in the temple, the use of some other method than extraction by flap, the tight application of a bandage, absolute immobility of the patient," etc.

Warlomont weighed his own large experience against the following dictum of Liebreich: "One must not operate upon the second eye by extraction when this accident has occurred in operating upon the first." ("Il faut se garder d'opérer le second œil par extraction lorsque cet accident est survenu en opérant le premier.") Substitutes for extraction, such as needling or reclination, give very uncertain and transient results in old persons. His patient had only the one eye, and he decided not "to deprive her of the benefits attendant upon the model operation." From his unfortunate experience he decides that "it is not right to set aside the experience of others," and . . . "to consider the second eye, when the first has been lost by hemorrhage, as justifying only operation with the needle."

May 26, 1890.—My patient, Miss T——, has occasionally suffered from pain since the operation. The eye is not perceptibly smaller. The cornear is clear, but the section is filled with a mass of tissue. The iris is pulled up into the scar of the section, completely closing the pupil. The anterior chamber is obliterated. There is good light perception.

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COFFEE IN COCAINE-POISONING.

By S. MITCHELL, M.D.,
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The many and varied symptoms arising from cocaine-poisoning are so distressing to the patient and trying to the physician, that the ingenuity of the latter is often taxed to the utmost in striving to relieve the same.

The extreme pallor, muscular weakness, and feeble and irregular pulse, seem to demand the most active stimulation, and yet, all who have been called upon to relieve these cases and have turned, almost instinctively, to such remedies as ammonia, brandy, and digitalis have, I doubt not, in cases where the symptoms are very pronounced, been sorely disappointed.

In the very mild cases these remedies have afforded almost immediate relief. But their action is singularly inefficient where the slight dizziness, faintness, and trembling are speedily followed by great pain in the precordial region, a weak and rapid pulse, sighing respiration, borborygmus, and belching of gas from the stomach, stiffness of all the muscles, and finally, paralysis of nearly the whole body except the brain, and this remains preternaturally active.

These severe and protracted symptoms I witnessed recently in one of my patients, and since this occurrence, when using cocaine hypodermically, a vision arises before me of this patient as she appeared with the whole body apparently paralyzed, except her tongue. This unruly member continually uttering words of reproach to me for the helpless and hopeless condition in which I had placed all the other members, gave me a sensation that I have no desire to experience again.

[1] Société Française d'Ophthalmologie, 1884.

It was in this case that I first employed coffee as an antidote for cocaine-poisoning. After using ammonia, brandy, and digitalis both hypodermically and orally, also heat and general faradization without any apparent effect, unless it was to stimulate my patient's tongue to utter such cheerful and encouraging remarks as "Oh, doctor I am paralyzed! I am dying! Oh, why did I come to you?" and while cudgeling my brain to think of something that might be more effective than the remedies already employed, my wife came to my assistance with the suggestion to try coffee. It was given clear, a large cupful being administered inside of two minutes.

The effect was all that could be desired. The pulse very soon improved, the pain and sense of oppression about the heart were relieved; in fact, all the disagreeable symptoms, except the stiffness of the muscles, passed away very rapidly, greatly to the relief of patient and physician.

I have employed it since in a great many cases when the toxic symptoms of cocaine began to show themselves, and always with perfectly satisfactory results. I have also employed it to relieve the extreme nausea with heart-failure that sometimes follows the administration of ether, and always with better results than with any other remedy.

I use it as ordinarily prepared for the table, with the exception that I pay no attention to the temperature. It is just as effective when used cold as hot.

It has been suggested to me to try caffein hypodermically, as likely to be more effective in these cases than the infusion. But I do not think it would answer at all, as caffein is a sedative, and its therapeutic effect seems to be scarcely at all identical with the pleasant and invigorating stimulation of the infusion that makes it so deservedly popular, which properties can hardly be attributed to the alkaloid caffein.

AN IMPROVEMENT IN THE PUS BASIN.

Dr. John E. Walsh, of Washington, D. C., writes: "It has always occurred to me that the ordinary pus basin is a very crude affair. Being so shallow and not containing much fluid, it has to be emptied or changed very often, and in doing this it is almost impossible not to spill some of its contents on the bed or clothing of the patient. I have arranged one which, I think, obviates this difficulty by emptying itself without being moved from its position. It is made by simply punching a hole in the bottom of the ordinary basin, of sufficient size, and fitting in it a hard rubber nozzle over the end of which is drawn a piece of flexible rubber tube long enough to drain into some larger receptacle.

"I have fitted one this way, and it has been used to great advantage in the Washington Asylum Hospital, of this city, especially in opening and washing out abscess of the breast, at the bedside. My excuse for occupying your valuable space with this description is, that I thought it might be of benefit to your many readers."

The Duty on Cod-liver Oil is now $2.25 per barrel. The McKinley Tariff Bill proposes to raise this to $5.00 per barrel. A large number of importing and manufacturing druggists have signed a protest against the proposed increase and ask that the duty be taken off altogether. Cod-liver oil cannot, it is stated, be manufactured in this country in sufficient amount to supply the demand because there are not enough cod.

Ingersollism and Quackery.—The Boston Ingersoll Secular Society recently discussed the proposed Massachusetts medical practice act, and its sentiments were expressed as follows by one of its members: "I admire a quack, he represents progress, and discovery, and new ideas. Without the quack we can have no reform. I do not believe that this bill, aiming at a monopoly of the worst type, can ever become a law."

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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PRIVILEGED TESTIMONY AND CENSUS TAKING.

IT is well known that on June 2d the stupendous undertaking of numbering the inhabitants of the United States will commence. Great excitement has been caused among the laity by the addition to the usual questions asked in census taking of those relating to physical conditions. Besides the name, age, sex, color, and occupation, the census enumerator is to ascertain whether the person is insane, feeble-minded or idiotic, blind, deaf, dumb, crippled, maimed, lame, deformed, or suffering from acute or chronic disease. Of course in hospitals and institutions there will be no trouble in obtaining statistics relating to impairment of mental and physical conditions. The annual reports which such institutions make are at the service of the census taker as they are at the service of the public at large; but the superintendent of the census realizes how very difficult will be the undertaking of collecting statistics of such conditions in private life. Dr. J. S. Billings, who is in charge of the vital statistics, has therefore issued a circular to all of the physicians in the United States asking them to fill out lists of names in the forms which accompany the circular, so that they can be compared with the lists furnished by the enumerators. He desires to know the insanity, form of insanity; if blind, the nature and cause of blindness; the nature of deformity, disease, or injury from which the person is suffering.

The result of such an inquiry if obtainable and *accurate* would of course be most interesting; but here is the rub. All statisticians know that it is impossible to obtain an accurate report of physical conditions among the population of the United States, and that any scientific work or deductions based on such data are of little value. The public have a right to know of contagious diseases; they affect the health of the community and the concealment of their presence is a crime against it. Nevertheless there are many cases of diphtheria, scarlet fever, and innumerable cases of measles which are never reported. Even births and deaths are not accurately recorded, although the necessity of obtaining burial permits makes the records of deaths the most accurate probably of all the vital statistics. This refers, of course, to the number of deaths, but as to causes of deaths, the information, except on broad generalizations, is of very little use to the investigators of the many questions which arise relative to the prevalence of disease.

As the returns of the census ordinarily give the number of people who are pursuing occupations, and the kinds of occupation, and include also information in regard to the various industries, the unemployed, either through idleness or disease, can be ascertained in a negative way.

It seems a great waste of work in printing, sending out the circulars, and assimilating the facts so ascertained. The amount of money expended on clerks who do the writing and tabulating is very great, and after all this is done, imperfectly as it must be, what advancement in science will be gained? Or suppose the able special agent of vital statistics should be so fortunate as to secure a perfect co-operation of the medical profession of the United States, and each physician should conscientiously fill out the blanks sent to him, of what great advantage would it be, over and above that which can be obtained from institutions, hospitals, factories, workshops, and schools, where, without intruding upon private life, the data can be accurately ascertained?

Finally, has the physician a right thus to hand over to the government facts which his patient and his friends are unwilling to make known? Can a physician feel justified in thus violating the confidence reposed in him by his patients? The request is worded as follows:

"Please fill out these lists for the persons of your acquaintance, or in whose families you practice (who have the physical infirmities we have already mentioned). It is essential to have the name, the sex, the color, and the approximate age, the place of residence, and also the name of the householder of whose family the person is a member, in order to identify the name in the enumerators' lists."

It certainly seems to us that it would be a matter of grave impropriety for the medical profession to lend itself to work of such a nature. On purely ethical grounds there is no possible justification for the request.

We venture to predict that, as far as the medical profession is concerned, all the labor of compiling and issuing of this remarkable circular will be lost. Each physician to whom it has been sent will have but one opinion of the propriety of the measure, and will not respond accordingly. His obligations regarding compliance with the request are entirely on the other side, and it is easy to foretell the result—the physicians cannot and will not respond.

PULSATION IN THE UVULA AS A SIGN OF AORTIC INSUFFICIENCY.

IN ordinary conditions of health there is no pulsation in the soft palate, or uvula, that is visible on simple inspection, so that when such a pulse is present it may, as a nearly constant rule, be taken as a sign of disease. In a recent memoir (*Charité Annalen*, xiv., 1889), Dr. F. Müller, of Berlin, has reported a case in which he observed rhythmical pulsations of the soft palate. The case was one of aortic insufficiency. A slight attack of pharyngitis led to an inspection of the throat, when it was seen that with each carotid pulsation the tonsils and pillars of the fauces moved slightly toward the median line, while the soft palate and uvula were somewhat lowered, so that there was a rhythmical contraction of the

faucial opening at the same time that there was an increase in the redness of the mucous membrane. Inspection of the throat after the inflammation had subsided showed the pulsations still present, though somewhat less pronounced. His attention having been thus called to this peculiar condition, Dr. Müller searched for it in six other cases of aortic insufficiency, and found it four times in a total of seven cases.

In an article in the *Gazette Hebdomadaire de Médecine et de Chirurgie*, March 15, 1890, Dr. P. Merklen quotes these cases and refers to an observation of his own. The patient was a young man who had a double mitral and aortic lesion, with marked hypertrophy of the auricle and left ventricle. The subungual capillary pulse was distinct, and in addition the palatal pulse was very evident on inspection. This was more particularly marked in the uvula, which could be seen to swell synchronously with the carotid and radial pulses.

Although, as Dr. Merklen remarks, this sign can have no great clinical value as an aid to diagnosis, it would, nevertheless, be interesting to learn with what constancy it is present in cases of aortic insufficiency, and whether the pulsation is ever visible in any other conditions. Müller never observed it in any other cases than those of aortic insufficiency, and Merklen has also examined many patients without this condition, but failed to find any pulsation. It is certainly not present in all cases of aortic insufficiency, for Müller looked for it in four such cases, but could not detect it. The palatal movements are not caused by transmission of the carotid beat, but are probably produced in the same way as the capillary pulse seen under the finger-nails in cases with similar cardiac lesions.

NITROUS OXIDE ANÆSTHESIA.

It is very generally held that the loss of consciousness resulting from the inhalation of nitrous oxide is due wholly to asphyxia. This opinion is the result of a close study of the physiological action of the agent. It has recently been asserted, however, by Krishaber, that the effects upon the circulation of mechanical asphyxia are widely different from those produced by nitrous oxide inhalation. As this assertion seemed to be contradictory to what had previously been affirmed by Jolyet, Blanche, and others, Drs. H. C. Wood and David Cerna were led to make a thorough investigation of the subject, the results of which were embodied in a paper read by Dr. Wood before the National Academy of Medicine.

There were three points to be noted particularly in this investigation, viz., 1, The time required from the beginning of inhalation to the development of complete anæsthesia; 2, the effect of the agent upon the rate and character of the pulse; and, 3, its influence upon the blood-pressure.

The test used to determine the presence of complete anæsthesia was the abolition of the conjunctival reflex. The length of time required for this effect to be produced varied in the different experiments from 51 seconds to 3 minutes and 50 seconds, the average period being 2 minutes and 8 seconds. The pulse-rate was found to be very decidedly slowed, while the arterial wave was enormously increased in size. This slow, huge pulse was absent when the pneumogastric nerves had been previously divided, so that it was evidently due to stimulation of the inhibitory cardiac apparatus. The effect of the inhalation upon the blood-pressure varied somewhat in the different experiments. In most instances there was an extraordinary rise in the arterial pressure, occurring sometimes at once and at other times not until the animal was completely anæsthetized. In all cases, if the inhalation were continued, the blood-pressure began to fall and finally reached the zero line. This did not occur, however, until long after the complete cessation of respiration, and the animal died from asphyxia and not from cardiac failure. Further experiments showed that this rise of blood-pressure was due to vaso-motor spasm, accompanied by a very pronounced increase in the force of the heart's beat. The secondary fall of arterial pressure was found to be dependent upon vaso-motor paralysis. The addition of ten per cent. of oxygen (one-half the proportion existing in atmospheric air) was found sufficient to prevent any anæsthetic action, and also suspended the action of the gas in raising blood-pressure, but did not destroy its power of reducing the pulse-rate, this seeming to show that the anæsthetic and vaso-motor influences of nitrous oxide are in some way apart and separate from its action upon the pulse. Yet the latter action would seem to be rather indirect than direct, as much the same effect was produced by inhalations of pure nitrogen.

Dr. Wood concludes from these experiments that both nitrous oxide and nitrogen act by shutting off oxygen. The blood-changes produced by inhalations of either gas resemble those caused by mechanical asphyxia, though they are not identical. The rise of pressure is usually much greater in mechanical asphyxia than during the inhalation of either of these gases; but the amount and duration of the circulatory disturbance vary greatly even when the trachea is hermetically sealed. It would, *a priori*, be expected that there would be differences in this respect, for in mechanical asphyxia there is an accumulation of carbonic acid in the blood, but in that caused by the inhalation of an inert gas the carbonic acid formation is checked while its excretion is unhindered, the result being that it is reduced in amount. But any differences that may exist are not a sufficient foundation for an argument that nitrous oxide acts as a direct anæsthetic, that is, that it produces anæsthesia by virtue of any inherent property which it alone possesses, and which is not common to all non-irritant inert gases.

THE ACTION OF COFFEE UPON THE ORGANISM.

Considerable attention has been paid recently to the subject of the physiological action and nutritive value of coffee. In a long contribution made by Professor Gee recently to the Académie de Médecine, he discusses the view, which is thought to be the prevailing one, viz., that coffee or caffein lessens nitrogenous waste and is an *aliment d'epargne*, or a food that acts by decreasing tissue waste. On the contrary, he asserts that its use increases nitrogenous metabolism and the excretion of urea. Its utility depends, therefore, upon its stimulant effect upon nervous action and metabolic processes.

While M. Gee is, in general, correct in his view, the

statements which he makes are not new, and are fully in accord with those reached by others long ago.

The experiments of Hoppe, Rabiteau, Roux, and others, which showed apparently that coffee causes a slight decrease in the excretion of urea, have not been accepted as of scientific value; while Voit's exact experiments upon dogs showed that there was an increase in this product. By the use of coffee, says Rossbach, tissue metamorphosis is slightly increased, and absorbed food is used rather more quickly; but it is not an *aliment d'épargne*, nor does it act as a food in an appreciable degree.

Dr. Edward T. Reichert, in a recent article (*New York Medical Journal*, April 26, 1890) on the action of caffeine, states that the conflicting results regarding the effects of coffee upon the excretion of urea and CO_2 are explained by the fact that such experiments are of no value in determining the influence of a drug upon tissue change. The only certain method of solving this question is by calorimetric measurement. Dr. Reichert reports three series of experiments upon dogs, made in accordance with this view. His results show that caffeine increases heat-production and heat-dissipation, and therefore destructive tissue metamorphosis. He concludes that the virtues of tea and coffee are entirely dependent upon the exhilarant effect each has upon the mental functions and its excitation of the higher nervous tissues. It does not replace food or increase the power for work without corresponding tissue destruction.

SUGAR OF MILK AND THE TARIFF.

The manufacture of sugar of milk may be regarded as a representative infant industry—from the material point of view. For this reason, perhaps, the McKinley Tariff Bill proposes to stimulate it by putting a duty of ten cents per pound upon the imported article. This has raised a strong protest on the part of numerous wholesale druggists, who assert that sugar of milk is used almost entirely for medicinal purposes, and in preparing foods for infants. Sugar of milk is now obtained chiefly from Switzerland. Attempts to make it in this country have for the most part failed, and it is said that the climatic conditions are not favorable here to manufacturing this sugar. Over a quarter of a million of pounds are imported annually, at a cost of about sixteen cents per pound.

THE BINDER.

To bind or not to bind the parturient female is a question with which the obstetrician still allows his mind to wrestle. At a recent meeting of the Obstetrical Society of London it was concluded in effect that the doctor had better do as the patient felt inclined. The matter ought not to be left in such a doubtful state. Kingdoms rise and fall, great nations disappear, cyclonic storms and volcanic fires change the face of nature, but babies continue to be born and the mother insists on having a binder, or knowing the reason why.

The Obstetrical Society of London should not trifle with topics of such eternal moment. For our part, we say do not bind. The alleged comfort secured is imaginary, the idea that the binder can restore the figure is unscientific and unphysiological, its supposed power in helping involution is purely hypothetical, and the whole conception of a binder is unnatural and abhorrent to common-sense.

The binder is a relic, not of barbarism, for barbarians are too sensible to bind, but of a half-enlightenment that is worse than ignorance. The physician who binds nowadays does it out of a weak complaisance to an imperious mother in-law or officious nurse. He should, out of respect to his art, rise above such trammels to his medical skill and his intellectual independence.

STANDARDIZE THE FLUID EXTRACTS.

There are about one hundred and forty-five fluid extracts in use by physicians. The doses of these range from one minim to two drachms, or, in other words, the strengths vary from 1 to 120.

Dr. E. R. Squibb shows, in the following graphic table, this range of variation:

1	Minim	to	3	Minims	—4	10	Minims	to	30	Minims	— 1
1	"	"	4	"	—2	½	Drachm	"	½	Drachm	—10
1	"	"	5	"	—4	½	"	"	¾	"	— 7
1	"	"	8	"	—1	½	"	"	1	"	—19
1½	"	"	10	"	—1	¼	"	"	1¼	"	— 1
2	Minims	"	8	"	—2	¼	"	"	2½	"	— 1
2	"	"	10	"	—1	½	"	"	1	"	—30
3	"	"	6	"	—2	½	"	"	1½	"	— 1
3	"	"	10	"	—1	½	"	"	2	"	—77
3	"	"	15	"	—4	½	"	"	2½	"	— 1
3	"	"	30	"	—1	¾	"	"	1¼	"	— 2
3	"	"	60	"	—1	¾	"	"	2	"	— 3
5	"	"	10	"	—1	¾	"	"	2½	"	— 1
5	"	"	15	"	—7	1	"	"	1½	"	— 1
5	"	"	30	"	—7	1	"	"	2	"	— 4
7	"	"	1	"	— 1	1	"	"	4	"	— 1
8	"	"	15	"	—1	2	"	"	4	"	— 1
8	"	"	30	"	—7						

It is proposed to standardize fluid extracts so that they will be of nearly equivalent strength, or perhaps to have two series of preparations, but each of the same strength. In this way much confusion and danger from wrong dosage will be avoided, while an enormous burden upon the memory will be removed. We trust that, if practicable, this reform will be carried out, and that we can say of fluid extracts—

> One hundred and forty-five extracts of but a single strength.
> One hundred and forty-five drugs whose dose is one.

LASSAR'S TREATMENT FOR BALDNESS.

Baldness and phthisis pulmonalis are the despair of therapeutists, and anyone who suggests a new remedy for either is at once elevated from obscurity to world-wide notice. Our contemporary, the New York *Medical Journal*, gives a detailed account of the treatment for alopecia pityroides and alopecia areata, devised by the talented Secretary of the International Congress, Dr. Lassar. The treatment is as follows, and is to be repeated daily for six weeks or more: 1. The scalp should be lathered well with a strong tar soap for ten minutes. 2. This lather is to be removed with lukewarm water, followed by colder water in abundance; then the scalp is to be dried. 3. A solution of bichloride of mercury, 1 to 900, the menstruum being equal parts of water, glycerine, and cologne or alcohol, is to be rubbed on. 4. The scalp is then rubbed dry with a solution containing beta-naphthol, 1 part, and absolute alcohol, 200 parts. 5. The final step in the process is an anointing of the scalp with an unguent containing two parts of salicylic acid, three parts of tincture of benzoin, and 100 parts of neat's-foot oil.

News of the Week.

Examiner for the Blind.—The Commissioners of Charities and Correction have appointed Dr. Henry S. Oppenheimer "Examiner of the Blind," for their department. There are about six hundred applicants annually who need the doctor's certificate to the fact that they are blind, and they share *pro rata* the amount set aside from the Excise Fund for their benefit.

State Medical Societies.—The following State Medical Societies hold their annual meeting in June: Colorado, at Denver, June 17th; Dakota, at Sioux Falls, June 12th; Delaware, at Wilmington, June 10th; Maine, at Portland, June 10th; Massachusetts, at Boston, June 10th; Minnesota, at St. Paul, June 19th; New Hampshire, at Concord, June 16th; New Jersey, at Schooley's Mountain, June 10th; Ohio, at Columbus, June 3d; Rhode Island, at Providence, June 12th; Vermont, at Rutland, June 26th; Wisconsin, at Milwaukee, June 24th.

A Check to Christian Science.—Two "Christian Scientists" of Jamestown, N. Y., treated a patient who was suffering from cancer. She died, and a coroner's jury rendered the following verdict: "Mrs. Barrows came to her death from cancer of the breast on the 8th of May. We believe that contributory to this death was the culpable negligence of Mrs. M. J. Smith and Mrs. E. G. Lovejoy, who were advised of the nature of the fatal malady with which deceased was suffering, and failed to resort to or advise treatment by any of the methods known to medical science. We further believe that W. A. Barrows was also negligent of his duty in not securing medical treatment for his wife when there was reason for believing that she was in need of such treatment."

A New Hospital is to be built and maintained in Sioux City, Ia.

Tuberculosis and Surgical Instruments.—A soldier who had borrowed a bugle belonging to a musician who was suffering from tuberculosis became himself a victim to this fatal disease.

Professor Horatio C. Wood, M.D., of Philadelphia, has been chosen by the General Committee of the International Medical Congress to represent American medicine in the delivery of one of the addresses before that body. A well-deserved honor for the man and the country.

The Tariff and Beef Extracts.—It seems that the McKinley Tariff Bill has made "an insidious thrust" at the imported fluid extracts of beef. According to the *International Journal of Surgery*, the bill in question contains a clause which will in effect prohibit the importation of fluid extracts of beef. Is it only a coincidence that about this time Mr. Armour is putting a preparation on the market?

The Pasteur Institute.—During the month of April seven persons were treated, all of whom at this time are in perfect health. In three of the cases the dogs were proved by the results of inoculation to have had hydrophobia, and in another, a second person, bitten by the same dog, died with symptoms of hydrophobia.

The Late Dr. Howard P. Trask.—At a meeting of the Charity Hospital staff of 1889–90 the following preamble and resolutions were adopted:

Whereas, It has pleased Almighty God to remove from this earthly sphere our worthy companion and professional brother, Dr. Howard P. Trask, of Chicago, Ill. We, his sorrowing associates, deeply conscious of the loss we have sustained, wish formally to record our high appreciation of his character and example; be it therefore,

Resolved, That we, as a staff, hereby express our sincere grief for the untimely loss of our friend. A man of unusually impressive and dignified presence, with a manner of mingled firmness and gentleness, he commanded the respect and won the confidence of all with whom he came in contact. In obedience to the Almighty power that rules the destinies of men, that can build up or cast down, that can give or take away, we bow in humble submission about the bier of our departed fellow-member and professional brother.

Resolved, That our staff most respectfully tender to Dr. Trask's bereaved relatives this expression of their profound sympathy, and the acknowledgment that by his death we lose a most esteemed friend and co-laborer in our profession. Be it further

Resolved, That a copy of these resolutions be sent to the family of the deceased, and that they be furnished to the medical journals of this city and Chicago for publication.

(Signed) Alexander Lyle, Jr.
W. O. Pimpton,
Cuthbert Gilham,
F. Louis Waite,
L. M. Michaelis,
Joseph R. Crofton,
Henry A. Higby.

An Aged Physician.—Dr. Enoch Fithian, of Greenwich, N. J., celebrated his ninety-eighth birthday on May 10th. A number of his friends from neighboring cities were present to congratulate him upon his continued good health and to wish him many future anniversaries.

A Surgical Hoax.—One of the serious morning papers of Paris recently published an article entitled "A New and Effectual Way of Getting Rid of One's Surplus Fat." The operators were said to be Drs. Demars and Marx, and the writer of the article, by way of further vouching for the accuracy of his statement, says he was present at the operation, and that the subject or patient was a medical student who was a sad sufferer from excess of adipose deposit, and who had tried all the usual systems and regimens recommended in such cases without the slightest effect on his abnormal weight. It appears that the abdominal conformation of this poor sufferer was of a somewhat unusual kind, for below the umbilicus was a fold of skin loaded with fat, which reached down over his thighs like an apron; and, as may be well imagined, this infirmity greatly impeded the patient in his movements. The operation, which was minutely described, consisted in removing this particular adiposus. There are no such doctors in Paris, however, and the whole thing turns out to be a clever hoax.

American Laryngological Association.—The Twelfth Annual Congress will be held in the Johns Hopkins University, Baltimore, May 29, 30, and 31, 1890.

A Census of Hallucinations.—Professor William James, of Harvard University, Cambridge, Mass., requests answers from everybody to the following question: "Have you ever, when completely awake, had a vivid impression of seeing or being touched by a living being or inanimate object, or of hearing a voice; which impression, so far as you could discover, was not due to any external physical cause?" The object of the inquiry is two-fold: 1st, to get a mass of facts about hallucinations which may serve as a basis for a scientific study of these phenomena, and, 2d, to ascertain approximately the proportion of persons who have had such experiences. Professor James was appointed by the International Congress of Experimental Psychology, held in Paris in the summer of 1889, to superintend this "census of hallucinations" in America, and he asks for the co-operation of all physicians who may be actively interested in the subject. It is clear that very many volunteer canvassers will be needed to secure success. Each census blank contains instructions to the collector, and places for twenty-five names; and special blanks for the "Yes" cases are furnished in addition. Professor James will supply these blanks to any one who will make application to him for them.

An Orthopedic Section in the Congress.—A committee, appointed by the Orthopedic Section of the New York Academy of Medicine, has petitioned the Secretary-General of the Berlin Medical Congress to establish a Section of Orthopedic Surgery at the Congress. In view of the fact that orthopedic surgery is now a well established specialty the committee believes that it should receive recognition as such, and requests all those who are interested in orthopedic surgery to write to Dr. Lassar, Secretary-General, Karlstrasse, 19, Berlin, N.W., requesting that such a section be established.

Dr. Louis F. Love has been appointed Chief of Clinic in Ophthalmology at St. Mary's Hospital, Philadelphia.

A Dispensary which Pays its Medical Staff.—The work of the Eastern Dispensary is increasing so largely that the Board of Trustees have found it necessary from time to time to increase the medical staff of this institution. After June 1st the combined time of service of the medical staff will amount to between fifty and sixty hours daily. All the physicians serving the dispensary are appointed after a competitive examination, and are paid at the rate of $200 a year for each hour of daily service. The success attending this plan has been equally gratifying to the staff and the trustees.

New York Cancer Hospital.—Dr. B. F. Curtis, Dr. Frank Hartley, and Dr. Paul Outerbridge have been appointed surgeons to the New York Cancer Hospital. Dr. Clement Cleveland and Dr. Henry C. Coe have been appointed gynecologists to the same hospital.

American Neurological Association.—The Sixteenth Annual Meeting of the Association will be held at Philadelphia, Pa., on Wednesday, Thursday, and Friday, June 4, 5, and 6, 1890, at the Hall of the College of Physicians, southeast corner of Thirteenth and Locust Streets.

Another Death from Electricity occurred in this city on the 17th inst. The victim, an Italian boot-black, received the alternating current of an arc light of about 1,500 volts.

Ohio State Medical Society.—The Forty-fifth annual meeting will be held at Columbus, O., June 4, 5, and 6, 1890.

The Episcope.—We referred to Professor Stricker's exhibition of his episcope at the recent Vienna meeting of the German Medical Congress. Fuller accounts (*The Lancet*) of this interesting and ingenious instrument are now given: It consists of a system of convex lenses and plane mirrors, by which, using electric light, the image of any opaque body can be projected on to a screen in its natural colors. To the members of the Congress at first large sections of a human brain were shown, and the assembly was much surprised by the clear appearance of the difference of the white and gray matter, which was apparent even to the occupants of the back benches of the auditorium. Then the open thorax of a living dog was shown, and one could follow the changes in color and movements which the heart was undergoing during the suffocation of the animal, all the branches of the coronary vessels, and the changes taking place in them, being clearly seen. Another interesting demonstration was that of the movements of the stomach and intestines of a dog whose abdominal cavity had been opened. The movements were much better perceived by the aid of the episcope than could be possible even by direct inspection.

The State of Connecticut granted the sum of $30,000 for a Homœopathic Hospital at New Haven on condition that a similar sum be raised by the incorporators. The amount has been raised and a site purchased.

The Mechanical Treatment of Erysipelas.—Wölfler has published eighteen additional cases of erysipelas treated by pressure of strongly adhesive plasters. After the plaster is applied the disease extends into the compressed parts of the skin, which swell considerably and remain swollen for several days, and then both the swelling and the fever diminish. He recommends that by way of precaution a second line should be compressed several centimetres distant from the first. The part must be carefully inspected once or twice daily in order to detect any loosening of the plaster. Occasionally the erysipelatous inflammation extends in diminished intensity for a short distance beyond the first line of plaster, but this does not last long.—*British Medical Journal.*

The "Lady Doctor" Question in Germany.—A petition was lately presented to the Medical Assembly of the Grand Duchy of Baden by the German Women's Association of Leipzig, praying that women might be admitted to study medicine. The Assembly passed a resolution declining to take any step in the matter, on the ground that women are unfit for the learned professions, and especially for that of medicine, and, moreover, that the latter is already overcrowded. Herr Arnsberger, the Ministerial Councillor representing the Government, said the question was not yet ripe for solution. He also pointed out that the matter was one for the decision of the Imperial authorities, not for that of the individual States. A similar petition has recently been presented by the same Association to the Weimar Landtag, in which the ladies ask to be admitted to the University of Jena, not only to study medicine, but with the view of qualifying for appointments as scientific teachers.—*British Medical Journal.*

The Royal Oculist.—The following item of medical news appears in the *Sun:* "The Royal Oculist, Duke Charles Theodore of Bavaria, has just concluded what this most useful and hard-working of princes terms a month's holiday at Meran in the Tyrol. As soon as his arrival became known afflicted peasants from all the valleys and mountains of the Austrian, Italian, and Swiss Tyrol flocked into Meran and were treated gratuitously by the Duke, who in the four weeks performed fifty-three operations for cataract and one hundred and seventeen minor operations."

The New York Academy of Medicine has transferred its building, No. 12 West Thirty-first Street, to the Mechanical Engineers' Library Association for $60,000, after having held it at $80,000 for some time. The purchasing society has given a mortgage for $33,000 on the property.

Transport of the Sick in Germany.—The Prussian railway authorities have set apart a few carriages for the conveyance of sick persons; they are fitted up with beds and everything necessary for the purpose. Such carriages are already kept ready for use at Altona, Cologne, Erfurt, Wiesbaden, Hanover, and Berlin.

A New Pharmacological Institute in Connection with the University of Bonn was formally opened on April 22d with an address from Professor Binz. The Professor has had the Order of the Red Eagle (Third Class) conferred on him in honor of the occasion.

Dr. Wales L. Cary, a well-known young physician, died May 17th, at his home in Brooklyn. He was born in Boston, Mass., in 1861, and was graduated from the Long Island College Hospital.

Medical Congress at Valencia.—A Medico-Pharmaceutical Congress will be held at Valencia, in Spain, in the latter part of May. It will be divided into four sections, as follows: 1, Medicine; 2, Surgery; 3, Public Medicine and Specialties; 4, Pharmacy and the auxiliary sciences.

A Useful Charity.—The Paris Municipal Council has voted the construction of an asylum for pregnant women of the poorer classes who by reason of their pregnancy are rendered for the time being incapable of following their avocations.

Obituary.

WILLIAM H. BYFORD, M.D.,

CHICAGO, ILL.

Dr. William H. Byford, one of the most prominent physicians of Chicago, died on May 21st, of heart disease. He was born at Eaton, Preble County, O., March 20, 1817, and was left an orphan at nine years of age. He was apprenticed to a tailor at the age of fourteen, but at twenty began the study of medicine, and in 1844 was graduated at the Ohio Medical College. In 1850 he became Professor of Anatomy in the Evansville Medical College, and in 1857 went to Chicago as Professor of Obstetrics in the Rush Medical College. He was appointed Professor of Obstetrics and Gynecology in the Chicago Woman's Medical College in 1862. He was the author of numerous contributions to general medical and gynecological science and of a standard treatise on diseases of women.

Reviews and Notices of Books.

Diseases of the Nose and Throat. By Franke H. Bosworth, A.M., M.D., Professor of Diseases of the Throat in the Bellevue Hospital Medical College, New York, etc. Vol. I.: Nose and Naso-pharynx, with four colored Plates and one hundred and eighty-two Wood-cuts. Pp. 651. William Wood & Co. 1889.

This is, as stated, the first of two large volumes on diseases of the parts named in the title-page, and they form an important member in the group of medical works issuing under the general title "Specialties in the Practice of Medicine."

The name of the author has been so prominently identified with laryngological interests, and his participation in their discussion in medical bodies is so active, that a more than passing glance must be given the work. Although undertaken originally as a second edition of his volume on the same topic in 1881, the advances made in the physiology of nasal respiration and in the diseases of the upper air-passages have made imperative a thorough rewriting of the whole volume.

The first section embraces diseases of the nose; the second, diseases of the naso-pharynx; while the third section is devoted to a brief and accurate description of the various operations of removal of growths, of resection of deep parts, and of correction of deformities of the regions named. This surgical section will have especial interest for the general surgeon, to whose hands the graver operations, involving the deep parts of the face, are more likely to be intrusted than to the strict specialist.

The few chapters devoted to examinations in laryngoscopy and rhinoscopy are well written and beautifully illustrated. Not only here, but throughout the work, the author justly refrains from emphasizing his own instruments and methods, leaving to the discriminating reader the exercise of a critical judgment in selection. Chapter VI., on the "Physiology of the Nose," is one of the most interesting in the volume. The author regards the respiratory and phonatory functions as perhaps even more important than that of olfaction, and premises his discussion of this topic with the statement that the normal functional activity of the nasal passages determines the integrity of the whole of the mucous membrane of the respiratory tract below. After alluding to Magendie's statement in 1829, that inspired air rapidly acquires the temperature of the body by passage over the mucous membranes of the air-passages, and by being charged with vapor derived from them, the writings of Dunglison in 1844, of Vierordt in 1845, of Grehaut in 1864, of Rosenthal in 1880, and of others, are introduced as corroborative of this belief; it is noticeable that Dalton, in 1876, and Foster make no mention of this fact. The author elaborated this idea in a paper in 1885, and reasserts the position then held, that the nasal mucous membrane must furnish the five thousand grains of water to the inspiratory currents of air, which physiologists assert are carried through the respiratory apparatus in the course of twenty-four hours. This function, the author claims, resides in the so-called erectile tissue of the turbinated bodies; the intricate and complex mechanism of these bodies and of the nasal passages lends anatomical weight to the argument. Aschenbrandt in 1886, and Kayser and Bloch in 1887, made extended experimental investigations with similar results as to the respiratory functions of the nose. The author's views are based on the results of extended clinical observations, and are worthy of the highest consideration.

In acute rhinitis the author relies on cocaine as the most definite and certain means of controlling venous turgescence; he uses a four per cent. solution, with morphia, in liquid cosmoline, by means of a spray. The most frequent cause of hypertrophic rhinitis lies in a deformity of the nasal septum, whose development is chiefly

mechanical; it is usually acquired in infancy while the child is creeping on the floor or is learning to walk, and is due to falls and blows, which may occasion a separation of the two plates of the septum. The development of such a deflection is slow, and may be unnoticed for years after the reception of the injury. The author is not disposed to regard the smoking of tobacco as an important factor in the etiology of catarrhal pharyngitis, and quotes the Cubans as inveterate smokers of cigarettes, and at the same time as unusually free from throat catarrhs.

The popular fear that offensive and odorous discharges result from an ordinary catarrh is combated with the statement that ulcerative and necrotic processes can only be met with in connection with syphilis, scrofula, and similar serious disturbances. In such patients the author finds the offensive odor is due to a dry and furred tongue, acquired by sleeping with the mouth open. The middle-ear deafness, often found in cases of hypertrophic rhinitis, the author does not believe is due to an extension of the catarrhal process into the Eustachian tube, by reason of the continuity of tissue, but that the nasal stenosis diminishes air-pressure in the vault of the pharynx with each inspiration; this acting through a long period of time produces the category of symptoms usually found with middle-ear disease. This mechanical theory of deafness will not be generally accepted in view of the well-known behavior of catarrhal processes in the middle and upper air-passages. The galvano-cautery has come largely into use since its introduction by Middledorpf and Voltolini, but the author prefers a chemical cautery, the best example of which he finds in chromic acid. He has an angular probe, or applicator, which is dipped in mucilage, and a few of the acicular crystals of chromic acid are thus taken up; the whole is then fused over a flame into a small bead; this is used as a caustic, the parts having first been cocainized, without endangering healthy tissue.

The general concensus of opinion among aural surgeons is that hypertrophic rhinitis is found in cases of chronic middle-ear catarrh in greater frequency than is atrophic rhinitis; while Wyss, of Geneva, found forty-seven instances of impaired hearing in sixty cases of atrophic rhinitis, Burnett, of Philadelphia, found atrophy of the nasal mucous membrane in fourteen and a half per cent. of cases of chronic middle-ear disease. Beverley Robinson, on the other hand, states that aural disease is found more frequently in atrophic than hypertrophic rhinitis; while Roosa and Buck allude to both forms of rhinitis indifferently as factors in the causation of middle-ear catarrh. The author emphasizes his belief that the integrity of the ear, as that of the bronchial tubes, depends on a healthy activity in the nasal passages.

The chapter on "Nasal Reflexes," covering thirteen pages, is all too short; its brevity serves to enhance interest in the author's belief in them. It must not be inferred, however, that the trigeminus is the only nerve that plays the *rôle* of a reflex medium, or that the eye is the only organ reflected upon, as a hasty perusal of this article might lead one to infer. Suffice it to note here that the subject of reflex and peripheral irritation will form one of the most prolific channels of neurological investigation of the future.

Dr. Bosworth is a firm believer in cocaine in a watery solution, but preferably mixed with fluid cosmoline, as a menstruum. His reliance upon its property of contracting the blood-vessels in epistaxis, hay fever, or vaso-motor rhinitis, and upon its contracting and anodyne properties in asthma or vaso-motor bronchitis, and in hypertrophic rhinitis, makes him place it in the front rank of medicinal agents; but to place in the hands of the patient a two per cent. solution of cocaine, and an atomizer to use at will in hypertrophic catarrh, or a four per cent. solution, as he recommends for hay fever—and to add that cocaine is by him regarded as one of the most harmless of drugs so far as any danger of addiction is concerned, its excessive use being objectionable only as is the excessive use of tea and coffee—to do this is to invite criticism as to dangerous methods of advice and as to unsafe liberties. No discreet oculist would dare trust patients with cocaine solutions stronger than one-half or one per cent., the latter representing about five grains to the ounce.

On page 252 "Himrod's Powder" is stated to consist of the leaves of lobelia, stramonium, ordinary tea, with nitrate of potash. This powder contains no lobelia; but besides the three others named, contains other ingredients.

The chapter on "Septal Deformities" is admirably written, and should be read with care. As is well seen, the author believes in their discreet and partial removal, preferring the nasal saw to all other instruments. He has never seen a case of ulceration, and his experience has been large.

So graphic is the symptom of the voice in nasal polypus or myoma, that the phrase describing it is introduced here as written. "It is a peculiar dead voice, and yet with something more of resonance than the dead voice of an adenoid—a dead voice, perhaps with a faint nasal tone in it." The cold-snare écraseur of Jarvis is preferred to all other methods of removal, as most efficient, least painful, and safest. For this purpose a twenty per cent. solution of cocaine is atomized upon the part; with most operators a four or eight per cent. solution is sufficient, pencilled and not atomized, thereby preventing any overflow of cocaine.

The author's conviction, that in cases of hypertrophy of the pharyngeal tonsil, or adenoid growths of the vault, complete removal should be achieved, will be concurred in by every operator in this region. These growths are pathological, and are fibromas, or fibro-myxomas. Fibro-elastic or fibro-connective-tissue formation is more prominent in the hyperplasia of the faucial than in that of the pharyngeal tonsil. Presence of the latter interferes with the high register of the voice, and all obstructions at the vault and in the nasal fossæ should be removed in order to the full volume and timbre and resonance of the head register. Singers first fail in this end of the musical scale, and are conscious of failure by the muffled tone and lack of the sounding-board function of the upper throat. The amount of aural catarrh and deafness concurrent with adenoid growths is remarkable. Urbantschitsch found deafness 130 times in 175 cases of these vegetations; Meyer, 72 times in 102 cases; Swinburne, 27 times in 42 cases; Bosworth, 28 times, 8 of which were of extreme deafness, in 75 cases; while Woakes states that not more than five per cent. of his cases escaped aural complications.

The wood-cuts and the colored plates illustrating the chapter on the "External Surgery of the Nose" are all that can be desired. In fact the whole work is admirably and fully illustrated, leaving the mind clear as to the descriptions of the author. The bibliography of the volume is very full, its index alone occupying eight pages. The well-known clinical character of the author's productions is fully exemplified in the present volume; and no one interested in this branch of surgical knowledge can lay it down without feeling the confidence which a master-hand and a competent teacher inspire. There is but little to criticise and condemn; and the medical profession is largely indebted to the author for his able manual.

A Medical Library for Chicago.—The librarian of the Newberry Library, which has an endowment fund of $2,000,000, announces that in the construction of the library building one section will be devoted exclusively to medicine. It is the intention to place in that department a library so complete as to meet, as far as possible, the wants of all who wish to consult medical authorities. There will be also kept constantly on file, as they are issued, the current numbers of all prominent medical journals published in this, and in foreign countries.

Society Reports.

American Medical Association.

FORTY-FIRST ANNUAL MEETING.

Held at Nashville, Tenn., May 20, 21, 22, and 23, 1890.

(Continued from page 607.)

SECTION ON PRACTICE OF MEDICINE, MATERIA MEDICA, AND PHYSIOLOGY.

FIRST DAY, TUESDAY, MAY 20TH.

The Address of the Chairman.—DR. JOHN H. MUSSER, of Philadelphia, delivered the annual address, in which he spoke of the greater facilities in the treatment of disease which were now enjoyed by the physician. But while this advance was for the benefit of the patient it had nevertheless resulted in throwing more work upon the physician. The practice of medicine now demands the expenditure of more time in the examination of these secretions and excretions, bacteriological investigations, etc., and it is but right that the physician should be compensated accordingly—he should, in other words, charge more than he now does, for the fees are as a rule much too small. A practitioner cannot do justice to his patients if he is not himself in good physical condition, and as a means to keeping himself in good health he must not work too hard. Overwork can be prevented by the employment of an assistant. The public will have to become used to this, but it would soon do so if the practice were universally adopted. The physician should lighten his burdens also by employing all the modern labor-saving methods. If he writes much or records all his cases he should have a stenographer and type-writer, and he ought, if possible, to have a female nurse always in his office. By the use of the telephone and phonograph he can further economize his time and strength. The physician owes it to himself to do this.

A Good Investment for Surplus Earnings is in the payment for summer outings and the purchase of the labor-saving means before mentioned. By so doing we become better able to treat our patients in the most efficient manner. The speaker also called attention to the advantage of employing trained nurses in private practice, and he heartily favored the suggestion, made long ago by the elder Gross, of establishing training-schools everywhere, in small localities as well as large. He urged a closer study of old methods of treatment and spoke with small measure of approval of the modern search after therapeutic novelties, and the almost reckless experimentation with new remedies. A problem which confronted the physician in this country was the change in physical constitution resulting from the amalgamation of races and the altered relations of life arising in our modern world.

Filaria.—DR. DE SAUSSURE, of Charleston, S. C., then read a paper on the filaria sanguinis hominis, his conclusions being based upon the study of twenty-five cases. He showed some specimens of the parasite taken from a dog, and later exhibited a patient suffering from the disease. He believed that the habitat of the parasite was in the South, and that cases of the disease observed in the North had always been contracted in the South.

DR. LOVERING, of Ohio, called attention to the similarity in the symptoms caused by the presence of trichina and those due to filaria sanguinis hominis.

The Turkish Bath in the Treatment of Rheumatism.—Dr. C. H. SHEPARD, of Brooklyn, N. Y., read a paper entitled: "Rheumatism and its Treatment by the Turkish Bath." After a brief review of the numerous theories broached from time to time, as to the etiology and nature of rheumatism, and of the unsatisfactory results obtained by the ordinary methods of treatment, he spoke at some length of the value of heat and especially of the application of heat in the Turkish bath. Rheumatism is a constitutional disease and requires constitutional treatment. Of all remedies advanced for its cure, heat is the most simple and the surest. He had records of over three thousand cases treated by means of Turkish baths, and of these a cure had been obtained in ninety-five per cent. Heat externally applied was not debilitating. It caused profuse perspiration but the water so lost was readily replaced in the system, and the effect of such sweating was to eliminate a vast amount of excrementitious material, including micro-organisms.

The paper was discussed by Drs. Ulrich, Didama, and Bailey, who were not in agreement with the reader of the paper as to the advisability of subjecting a patient with acute articular rheumatism to treatment by means of repeated Turkish baths.

Calomel in Dysentery.—DR. J. W. DAVIS, of Smyrna, Tenn., then read a paper in which he advocated the employment of calomel in the treatment of some forms of dysentery.

The discussion which followed was participated in by Drs. Ulrich, Dawson, Didama, Sloan, Musser, Davis, and Woodhull.

SECOND DAY, WEDNESDAY, MAY 21ST.

Calomel as a Diuretic.—DR. GEORGE FACKLER, of Cincinnati, introduced this subject by first reviewing its literature. It was of recent date and limited to the observation of few experimenters. The author related three cases of heart disease attended by œdema in which calomel, administered in doses of about four grains three times daily, usually continued four days or longer, caused decided polyuria and disappearance of ascites and œdema. In most of these cases digitalis and other of the older diuretics had failed. In a fourth case, in which the cardiac trouble was far advanced, calomel also failed to act as a diuretic. The drug, when administered in this manner, caused slight, sometimes severe, salivation and stomatitis. It was desirable that the calomel be retained as long as possible, in order that it might be changed into an albuminate, in which form it produced its action. His conclusions were as follows: 1. Calomel, and, in all probability, other mercurial compounds, possess diuretic action. 2. If given in proper doses, the effect of calomel becomes evident from the second to the tenth day. Continuation of the treatment during diuresis will not alter or increase the effect. 3. Its action is most marked in dropsies due to heart disease. Its action in dropsies of hepatic origin is not to be relied upon. Pathological changes in the kidney prevent or abridge its action. 4. Small doses are of no avail. 5. The diuretic action, in all probability, is due to the irritating effect which mercury exercises during elimination upon the renal epithelium.

DR. CALDWELL, of Florida, had produced diuresis by bichloride of mercury, one-thirtieth of a grain or more three times daily, in combination with muriate of ammonia, and had not been troubled by salivation. By eliminating the ascites and œdema sleep was obtained and the appetite improved.

DR. DE SAUSSURE, of Charleston, in treating a case of filaria, had observed diuretic effects from bichloride of mercury, and a ten-grain dose of calomel had been observed in Charleston to produce a diuretic effect in certain cases of œdema due to heart disease, but the action was not so long continued as when administered in the manner described by the author.

The Continued Fevers of the South.—The discussion on this subject was opened by DR. W. W. JOHNSON, of Washington, in a paper read by the secretary. The subject might be subdivided into four heads. 1. To what extent does typical enteric fever prevail throughout the South? 2. To what class do the negative or atypical forms of fever belong? 3. Is continued malarial fever or malarial fever of remittent type generally prevalent?

4. Is enteric fever of the South modified by malarial affections, giving rise to what has been termed typho-malarial fever?

The author thought enteric fever was a rare disease in the South in the typical or intense form. There was probably a change going on in the form of enteric fever in the South which had lessened its typical character. It was becoming milder. Many cases of mild continued fever which had no well defined course or symptoms were cases of mild enteric fever, erroneously diagnosticated at times as malarial and intermittent fever. There was no good reason to believe there was such a disease as typho-malarial fever.

Typho-malarial Fever Does not Exist.—Dr. John P. Wall, of Tampa, Fla., held that there was no such disease as typho-malarial fever in the South. Typhoid fever existed there, but of late years it was of mild form, and continued on an average three weeks. He thought typhoid fever might develop independent of a previous case, for he had seen it freshly appear in towns or country places entirely isolated. He disbelieved in the germ theory in this particular disease. Impure air and conditions of the soil were the chief factors in its production. Change in soil, condition, and climate would largely account for the change in the type of the disease.

In Western Tennessee.—Dr. T. J. Hoppel limited his remarks to typhoid fever as it had existed many years in Western Tennessee. When he first began practice there the cases were typical; now the reverse was the rule—enteric fever usually ran an atypical course. The cases resembled in some degree malarial affections, but did not respond to quinine. The morning temperature was likely to be 102°F., afternoon 104 to 106°F. The kidneys and bowels were torpid, the skin sallow. The fever might be continued or remittent, in some cases its duration had been eight weeks. Toward its declination there was a cold stage in the morning during which the thermometer might register 96° or 97°F. He did not think there was a distinct affection which should be called typho-malarial fever.

Typhoid and Malarial Fever in the Same Patient.—Dr. J. C. Shepard divided Tennessee into three geographical areas, one of which constituted a large basin; a second table lands; a third mountainous regions (Cumberland), this being perhaps three thousand feet above the ocean level. He had found enteric fever prevalent in mild form in all these regions, malarial fever particularly in the basin, less in the table lands, absent in the mountains.

But there was a modified form, partaking partly of the malarial, partly of the typhoid character, the former element predominating in the basin, the latter in the elevated regions. If the cause of enteric fever was a germ, the disease was yet modified by climatic and hygienic conditions.

Typho-malarial Fever Does Exist.—Dr. George Dock, of Galveston, said that a combination of typhoid and malarial fever had been demonstrated. In Texas, however, they never spoke of typho-malarial fever, but they had a continued fever which was commonly spoken of as catarrhal, and the question had been discussed among them whether they had to deal with typhoid fever or a catarrhal fever. As to the latter, there had been no autopsies to show its pathology out of the many cases in which it was said to have been the cause of death. His own opinion was that such cases were usually enteric, though not running a typical course. In half a dozen cases he had verified this view by an autopsy, at which the essential lesions of typhoid were found in the intestines. Those who held to the separate nature of catarrhal fever adopted a different treatment, giving heroic doses of antipyrine, one hundred and fifteen grains three times a day.

Dr. Sears had been practising thirty-five years in Texas, and had there seldom seen typical typhoid fever. But he had treated a large number of cases of continued fever which he had no hesitation in pronouncing purely malarial. They had the mixed types of remittent, intermittent, and continued malarial fevers. These fevers, if continued sufficiently long, might take on the typhoid state, as might pneumonia and other affections, especially when badly managed, but it was not really typhoid. The patient should take quinine, and although he did not claim that this drug cured, it did prevent fatal consequences. The recovery might be abrupt or gradual.

Atypical Typhoid the Rule.—Dr. Van Enam, of Kansas City, said that if typhoid fever were recognized only when all the symptoms were present laid down in the books a correct diagnosis would seldom be made. Atypical cases were the rule. There was but one uniform sign, and that would not be recognized during life. He referred to the intestinal lesions. He thought there could no more be a typho-malarial fever than a scarlatinal measles. He had frequently found the morning temperature of typhoid fever 97° F. The disease, in his opinion, was self-limited, and the patients who had received large doses of quinine got well in spite of the drug instead of because of its beneficial action.

Dr. Sears, finding the last remark elicited by his statement that in Texas large doses of quinine were demanded, even two ounces in three weeks, said the belief was founded on clinical observation. Patients with the affection referred to by him recovered when they took quinine, and frequently died without.

Dr. Powell, of Tennessee, thought that in what had been recognized in his State as typho-malarial fever there was a mild type of typhoid fever.

The Shield with Two Sides.—A member said the discussion reminded him of the story of the shield with a golden and a silver side. There seemed to be in some cases both malarial and typhoid fever, and according to the side from which the subject was viewed by the respective disputants was the honor given to the typhoidal or malarial in diagnosis.

The Malignant Type in New Countries.—Dr. Wilson, of the State of Washington, said that so called typho-malarial fever of a malignant type existed in some parts of their State. He believed it was only malarial, was milder in older States, and required quinine. There might in this disease be a typhoid state, but not true typhoid fever.

The Specific Treatment of Typhoid Fever.—The next paper, with this title, was read by Dr. J. H. Van Enam, of Kansas City. Impressed with the failure or injurious consequences of other methods of treatment, except those claiming to be simply palliative, and accepting the germ theory in its etiology, the author looked for a really curative agent in something which would destroy the germs in the body of the patient. An alkaline medium was required in culture processes, the least acidity destroying the germs. On this hypothesis he gave half-drachm doses of dilute muriatic acid every three hours night and day, having first cleansed the alimentary tract by calomel, and allowing only sterilized food. In the six or more cases thus treated there had been no delirium, no sordes, diarrhœa was arrested, recovery had taken place within twenty days.

Has Progress been made in the Medicinal Treatment of Typhoid Fever.—Dr. T. J. Hoppel, of Trenton, Tenn., in this paper gave some of the sources of error in attributing beneficial or curative effects to remedies applied in typhoid fever. Yet the mortality from this disease had gradually been reduced, and this result he attributed in part to the abandonment of injurious measures, and in part to the discovery of beneficial ones. He did not deny that the Brandt method of using cold water possessed virtues, yet he thought it had been often applied, and beneficial results attributed to it in many conditions mistaken for typhoid fever; that it was cumbersome, and professed to accomplish results which could much better be secured by antipyrine, and other measures. If it had been shown that germs were the cause of typhoid fever specific remedies could act only in killing these. His

best results had been obtained from antifebrine for reduction of the temperature when it rose above 102° F., from carbolic acid or the phenic preparations, alone or combined with iodine or ammonia, to destroy the bacilli.

Carbolic acid had a tendency to cause constipation and lessen the fluidity of the blood, which should be counteracted.

The Treatment of Insomnia and Neuralgia by Butyl Chloral Hydrate.—Dr. Hobart A. Hare, of Philadelphia, offered, as an apology for reading this paper, the fact that butyl chloral hydrate had been little employed in neuralgia in this country, whereas in England Ringer and others had found it decidedly useful in certain cases of insomnia and neuralgia. In a case of neuralgia and insomnia due to middle-ear disease Dr. Hare had found it of decided benefit; five grains in pills every two hours were taken until thirty grains had been administered, after which there was total relief. It had relieved functional insomnia from unknown cause, but did not always respond in insomnia due to advanced systemic conditions. It was beneficial in insomnia due to heart disease, and did not depress the heart. It was especially useful in insomnia with head pain, particularly where branches of the trifacial were affected.

The Chairman was authorized to appoint a committee to take into consideration the continued fevers of the South, to report at the next meeting.

Auto-Intoxication in the Presence of an Excess of Nitrogenous Food.—Dr. Sawyer, of Cincinnati, reviewed in a paper recent investigations concerning the toxic elements found in the intestinal tract and urinary excretion, and then related the histories of five cases in which a series of symptoms were present corresponding closely to those described by the discoverers of the ptomaines and leucomaines present under certain conditions. Among the symptoms were headache, loss of ambition, disinclination to work, local or extensive œdema, diminished quantity of urine, usually with an increase of urea, no rise of temperature, pulse slightly quickened but not of high tension.

The patients were accustomed to take a considerable quantity of meat, and when restricted largely to a vegetable diet the urea diminished in quantity, the specific gravity of the urine was lowered, and the mental and other symptoms disappeared. His own observations had been solely clinical, no search having been made regarding the existence or nature of toxæmic elements.

Third Day, Thursday, May 22d.

Oxygen, its True Value as a Therapeutic Agent.—Dr. J. M. French, of Cincinnati, had employed this agent almost constantly the past three years. He employed O_2, or nascent oxygen. It should be both fresh and pure. As was well known, there were two other forms of oxygen—atmospheric and ozone. When pure it was tasteless and unirritating. He saw no reason for claiming for O_2 any very different action than the physiological one of atmospheric oxygen. It was a difference of degree rather than of kind. It penetrated the blood more readily, but if this was granted its applicability would be extensive.

The results obtained from it were sometimes almost instantaneous. Aside from the sensation in the head, it caused a change in hue of the mucous membranes of the cheeks, etc., of a blanched patient; although sudden, the effect was not always transient.

In incomplete oxidation, more or less marked, attending diphtheria, asthma, tumors, renal disease, inhalation of noxious vapors, etc., the treatment was often markedly beneficial. The constitutional effects of the treatment were best seen in chronic diseases, not less in the kidneys and other organs than in the lungs. Above all was it useful in diseases of the blood, particularly the anæmias. Thus far he had found it more widely useful than the electric battery, and like it it should be used only in properly selected cases.

The Local Treatment of Phthisis Pulmonalis.—Dr. E. L. Schurley, of Detroit, had found by experiments on guinea-pigs, etc., that medicated inhalation, administered in a small room, frequently and for some time, left a deposit of the drug in the finer bronchi; not so when the inhalations were in larger rooms in which the air could not be saturated. These facts corresponded with clinical experience in the case of man. Inhalations by ordinary means employed by patients at their homes were of little value except where the process was confined to the upper air-passages. He thought it unreasonable to expect benefit from air passing over a sponge containing a few drops of creosote. In brief, he thought the profession should discard the ordinary inefficient means of using medicated inhalations, when it was desired they should reach the air-vesicles, and confine the patient to a room in which the atmosphere was saturated, or seek some other efficient method.

Drs. Bateman, Powell, McIntosh, Bailey, and others, who discussed the paper, could relate little positive benefit from medicated inhalations in phthisis, yet most of them thought greater success would be obtained if the medicated agent could be made to penetrate the air-vesicles.

Dr. De Saussure said consumption was likely to solve the race problem in Charleston, for there the negroes were dying in large numbers from this disease.

Functional Albuminuria.—Dr. W. B. Davis, of Cincinnati, in his paper first related the case of a person who was refused a policy by a life insurance company because of the presence of albumin in the urine, yet a thorough study of the case convinced him that the individual was free from any form of disease.

A review of the literature showed that such cases were not uncommon, and the form of albuminuria had been spoken of, according to the case, as dietetic, non-organic, intermittent, remittent, recurrent, paroxysmal—from muscular exertion—latent, simple, transient, postural, physiological, psychical, adolescent, mechanical, etc. These terms pointed to some of the demonstrated or supposed causes. The profession had made really but little progress in the study of albumin in the urine since the time of Bright, and had made the mistake of looking upon all cases of albuminuria as of grave significance.

Dr. Vaughn had examined the urine for albumin in numerous cases, and could say that where it was constantly present there was some form of Bright's disease, which would eventually kill the patient. In almost any individual, however, albumin might appear temporarily in the urine at some period of the day, and in such case it was due to some derangement of digestion or of the liver. This form he spoke of as periodic albuminuria.

Hydrophobia.—Dr. Harold N. Moyer, of Chicago, read a paper on the "Clinical Study of Hydrophobia, with Statistics and Report of Cases." There were those who took the view that hydrophobia was only a modified psychosis. This view was combated in the paper, which reviewed the twenty-five cases of deaths from the disease reported to the health authorities in Chicago from 1881–88. The youngest patient was two and one-half years of age, the eldest sixty. The longest duration of the disease after the period of incubation was five days; the shortest, one day; the average in nineteen cases was three days. The average period of incubation was about forty-one days; the shortest was seventeen days.

There might be nervous symptoms resembling hydrophobia in milder degree, but it appeared unreasonable that in all the reported cases, ending so often in death, most terrible symptoms could depend only upon the imagination of the patient. The type of the disease as it had been described in this country corresponded with that in Europe.

The author held that hydrophobia was a distinct infec-

tious disease; that it was not a psychosis, and bore little or no relation to diseases of the mind.

Pasteur's Preventive Inoculation of Rabies.—Dr. A. Lagoris, of Chicago, in his paper, reviewed in a clear and terse manner the work of Pasteur, and the results of his method of inoculation as it appeared in the statistics. He was a strong believer in the infectious nature of hydrophobia, and in the success of Pasteur's method of inoculation.

OBSTETRIC SECTION.

First Day, Tuesday, May 20th.

The Section was called to order by the President, Dr W. W. Potter, of Buffalo, who immediately proceeded to give his address.

The President's Address.—He digressed somewhat from the usual order of things, and gave some new ideas as to how the Section should be conducted. He advised that the secretary be elected for a longer time than one year, as in that time he only learned how to be of service and became acquainted with the members. He would have an assistant secretary elected each year, probably from the place of meeting. He dwelt at length on the importance of a prompt and full report of the proceedings of the Section in pamphlet form. He advised the securing of a stenographer, as it was almost impossible to get the doctors to write out their discussions, or abstracts of their papers, even for that most amiable personage the medical journal editor. He also thought there should be a vice-chairman elected to fill the place of the chairman in case of unavoidable absence.

Progress in Obstetrics.—The doctor then proceeded to refer to a few points in progress in obstetrics and gynecology during the past year. The practice of surgery had not been more revolutionized by Lister than that of obstetrics. The first lesson is that the parturient woman must be clean. Then followed a discussion on antiseptics. Traction forceps came in for a share of attention. He thought them serviceable in some cases and not to be so sweepingly condemned as on their first appearance. Their assistance often enabled us to save both mother and child, one of these instances being where impaction of the head is accompanied by uterine inertia. In discussing the advances in gynecology considerable time was devoted to the amputation of the cancerous uterus. He thought the present operation for either cancer of the body or neck, or epithelioma of the cervix, was total vaginal extirpation of the uterus.

Electricity in Gynecology came in for a share of consideration. Electricity, he said, was in the air. He discussed the treatment by electricity of uterine myoma, and also that of ectopic pregnancy by the same means. In the latter he favored abdominal section. Electricity will be adjudged a place in gynecology, but this place is not yet fixed.

On motion, that part of the President's address relating to the workings of the Section was referred to a committee of three.

Dr. Alexander Dunlap, of Springfield, O., the veteran laparotomist, was present and invited to a seat on the platform.

Early Operation for Cancer of the Uterus.—Dr. Franklin H. Martin, of Chicago, read a paper on the subject, "A Plea for Early Vaginal Hysterectomy for Cancer of the Uterus." Dr. Martin had collected one hundred and thirty-four cases which had been performed since January 1, 1885, with the idea of getting at the future immediate mortality of this operation. The mortality was less than fifteen per cent. Of 25 operations, 4 had been operated on but once; 3, twice; 2, three times; 3, four times; 5, five times; 1, eight times; 1, twelve times; 1, thirteen times, and 1, twenty times. The average mortality of operators having the largest number of cases was but ten per cent. A summary of Dr. Martin's paper is as follows: 1. Vaginal hysterectomy is the most justifiable surgical procedure we know as yet for cancer of the uterus. 2. Vaginal hysterectomy should be attempted for cure of cancer of the uterus at the earliest possible moment after the disease is diagnosed. In support of the foregoing propositions these facts were given: *a.* Vaginal hysterectomy will remove the entire disease in cancer of any portion of the uterus in a greater proportion of cases than any other surgical procedure now recommended. *b.* Vaginal hysterectomy will enable the operator to go farther beyond the diseased tissue into healthy tissue than any other surgical procedure. *c.* Vaginal hysterectomy is a more ideal surgical operation and leaves the remaining tissues in a less favorable condition for return of the disease than will any other operation. *d.* Vaginal hysterectomy for cancer of the uterus will in the future give an immediate mortality among general operators of not more than ten per cent. In the hands of experts it will not exceed five per cent.

Dr. L. H. Dunning, of Indianapolis, could not agree with the essayist in the sweeping assertion that total extirpation of the uterus was the operation *par excellence*. Any operation must fail unless all diseased tissues are removed. If the cervix is primarily affected, and only a part of it, removal of the cervix is all that is necessary. Hoffmeier's statistics show us that the amputation of the cervix is of less danger primarily, and the longevity of the patient is greater. The speaker had done twenty-five high amputations of the cervix without a death. We should not remove the whole uterus in every case of epithelium or affection of the cervix.

Dr. H. Graff, of Eau Claire, Wis., had a case so much in point that he thought it worth reporting. It had been stated by the previous speaker that cancer was a local disease, but he queried the truth of this fact.

Dr. T. A. Reamy, of Cincinnati, read the statistics of Dr. A. Martin, of Berlin, which he presented to the International Medical Congress at Washington. The speaker believed that skill will bring the operation to such perfection that it will not be a primarily dangerous one. As the Fallopian tubes are a part of the uterus, why would you remove the uterus and leave a part of it behind? Will anyone deny the anatomical and physiological proposition? He reported a case where he removed a cancerous cervix seven years ago. The specimen was submitted to Dr. Kebler, of Cincinnati, one of the best pathologists in that city, and under the microscope it proved to be cancer. This patient is still living and has two healthy, happy children. He had two other cases where he had done the same operation and the patients also bore children. Had I removed this uterus the result could not have been better; the dangers would have been greater and she would not have had these children. If cancer commences in the body of the uterus any man who would recommend any other operation than total extirpation would be foolish and dangerous. Why do so many cases of high amputation get well? Why have advertising quacks been able to remove mammary glands with arsenic paste, and the disease did not return, when in similar cases in which we have operated it does return? The less traumatic surface you can have, if you remove the whole disease, the better The less surface you have, and open vessels for absorption, the less danger you have for recurrence.

Dr. Wm. H. Wathen, of Louisville, was of the opinion that in a great many cases where amputation of the cervix had been made for cancer and the patient recovered, the diagnosis, be it either clinical or microscopical, was incorrect.

Dr. J. L. McIntyre, of St. Louis, wished to enter his earnest protest against the assertion that total extirpation of the uterus is an ideal operation.

Dr. Martin closed the discussion and cited a case on which he was operating before the class at Chicago, and Professor Byford came along and told him to amputate the cervix and let the rest alone. He removed the entire

uterus and presented the specimen at the Chicago Gynecological Society, where it was cut open and the disease found to extend in a narrow line clear up to the fundus. This was examined by the pathologists of the society and found to be carcinoma.

SECOND DAY, WEDNESDAY, MAY 21ST.

Election of Officers for the Section resulted as follows: *President*—Dr. C. A. L. Reed, Cincinnati; *Secretary*—Dr. H. A. Kelley, Baltimore.

Stricture of the Urethra in Women.—DR. ELY VAN DER WARKER, of Syracuse, N. Y., read a paper on this subject, in which he thought the frequency and seriousness of this condition of the female was not sufficiently appreciated. The most of the strictures he thought to be of the annular variety and situated near the meatus. He had had no experience with electrolysis, but was of the opinion that it would only prove irritating to a sensitive urethra. The sound he considered utterly misleading and could not give an exploration of the parts. We should use instruments which might be called those of precision, viz., the exploring bulbs.

DR. ANDREW F. CURRIER, of New York, spoke of the toxic form and described a case occurring in his practice due to cantharides. Stricture in the male has been overestimated. Many cases are treated where treatment is unnecessary.

DR. GEORGE J. ENGLEMAN, of St. Louis, said that this frequency of stricture in woman was something new to him. He would ask the essayist was it not an inflammatory condition rather than a narrowing. He has not used electrolysis, but a mild sedative current, the positive pole of the galvanic battery, will act as a sedative to the irritated nerve and will often accomplish what Dr. Van der Warker seeks by dilatation.

A Self-retaining Catheter.—DR. C. B. REED, of Middleport, O., had found a self-retaining catheter worn a part of the time to be very valuable. He once had a violent case of peritonitis follow the dilatation of the urethra.

DR. A. F. CURRIER, of New York, read from the title, "A New Operation for the Relief of Prolapsus of the Anterior Vaginal Wall." The doctor thought that lesions of the anterior vaginal wall had not been given the importance they deserved. And this importance is an argument in favor of its treatment. Prolapse may occur outside of parturition. The operation described was an oval cross-shaped denudation, the edges of which being approximated dispelled the prolapse. He had made the operation three times, but the time elapsing—five months—was hardly sufficient to decide as to the permanency of the relief, but everything pointed that way. As for cicatrix, no one would know that an operation had been performed.

DR. ELY VAN DER WARKER, of Syracuse, N. Y., thought the operation well devised to cure the trouble, but if he should offer any criticism it would be that more denudation should be made in the lower part of the vagina. He had made a number of successful operations after Dr. Reamy's method, which has for its essential feature the going deep into the connective tissue and giving a strong support to the sutures.

DR. T. A. REAMY, of Cincinnati, remarked that it was very important to go deep. He uses silk sutures. Suppuration does not occur after using catgut. He uses this suture also, but it may give out too soon. He leaves his sutures in two and even three weeks.

DR. A. W. JOHNSTON, of Danville, Ky., thought ectropion of the bladder much like ectropion of the eyelids. Ophthalmologists used to cut away the redundant mucous membrane till they found the ectropion was due to the shape of the eyelids. In ectropion of the bladder we should repair the perineum. If the posterior part of the vagina is attended to the anterior wall will have its support and will not prolapse.

DR. GEORGE J. ENGLEMAN, of St. Louis, said that his own experience with this operation had been unsatisfactory. He thinks it only profitable as an adjunct to the operation on the posterior wall.

DR. ALEXANDER DUNLAP, of Springfield, O., was not in favor of leaving sutures in two and three weeks, but removed them on the third day.

A telegram was read announcing the sudden death of Dr. W. H. Byford, of Chicago.

The Surgical Treatment of Non-Pedunculated Abdominal Tumors, was the subject of a paper by DR. HENRY O. MARCY, of Boston. After reviewing in brief what is known of the origin and development of the cystic growths of the pelvis, the writer stated that, developing beneath the deeper structures, they necessarily are inclosed by the peritoneum as an investing membrane; and that the demonstration made years since by the late Dr. Miner, of Buffalo, N. Y., has special value in this class of cases—the enucleation of the cyst by what he called the process of stripping the peritoneum from it. This Dr. Miner recommended in all the ovarian cystoma without regard to the formation of a pedicle. For obvious reasons this method thus generally applied fell into disuse, and has been largely forgotten. In that class of cases, however, where the development has left so broad an attachment that there is wanting a pedicle Dr. Marcy advocates a modification of the method as presenting many advantages. This he practises as follows: After a partial emptying of the cyst contents, the peritoneum is divided at a considerable distance from the base of the tumor and the cyst is enucleated. The bleeding vessels are temporarily secured and the peritoneal pocket thus formed is seized with large compression forceps and held by an assistant. The base, and if possible, which is surely not difficult, quite beneath the attachment of the cyst, is sewed evenly through with an even continuous tendon suture, in double stitch, effected by means of a long covered needle, set in handles, with eye near the point, and generally known to the profession after the name of the author. This suture encloses all the tissues and, when properly placed, not only controls hemorrhage but constricts without necrosing the tissues. The superfluous structures are cut away to within an inch of the sewing and the edges are intra-folded by a continuous tendon suture, the line of the stitches being taken parallel to the cut edges. This method of adjustment allowed of the replacement of the parts without strain or tension and closure of the abdominal wound without drainage. Dr. Marcy also advocates and practises the basic uterine tissues after the removal of the fibroid tumors in a similar manner, his first observation and studies on the subject having been published about ten years ago. They are all founded upon the use of the buried animal suture (tendon for many reasons much prefered), itself aseptic, as aseptically applied in an aseptic wound. Dr. Marcy then showed his tendon sutures, which are taken from the kangaroo's tail, which he has prepared and sent him from Australia.

DR. T. A. REAMY, of Cincinnati, in discussing the paper said he was not so dumfounded by these cases as formerly, but had lost one case operated on before the class during the past winter. It was because the adhesions were so great. He should have abandoned the operation, introduced drainage, and left the cyst in situ.

DR. MARCY, in reply to a question, said that he would not under any circumstances use a drainage-tube unless there was a septic condition present.

SECTION ON DISEASES OF CHILDREN.

FIRST DAY, TUESDAY, MAY 20TH.

DR. I. N. LOVE, OF ST. LOUIS, CHAIRMAN.

IT was voted that the section of dietetics be invited to meet during this session with that of pædiatrics.

The Annual Address of the Chairman was deferred until the second day.

Operative Treatment of Acute Peritonitis in Children.—Dr. G. Frank Lydston, of Chicago, Ill., read a paper entitled, "A Plea for Early Operative Treatment in Acute Peritonitis, with Special Reference to the So-called Idiopathic Peritonitis of Children." Before the introduction of the opium treatment by Clark in 1850, nearly all of these cases resulted fatally. The ideas of Clark held sway for forty years. A reaction against this view was now strongly setting in. Septic cases had in time past been treated in precisely the same manner as non-septic cases. This was manifestly an error. The modern view regarding the nature of peritonitis is that it is essentially a surgical, rather than a medical affection, and the writer made a strong plea for early operative interference. He did not believe there was any such thing as "idiopathic" peritonitis. To attribute it to cold, dietetic errors, and such like causes was simply to express our ignorance. It was undoubtedly a sequel to certain constitutional conditions; gout, tuberculosis, for instance, of renal, and puerperal affections, but he was inclined to regard traumatism as by far the most common cause in the so-called idiopathic cases. To trace out this traumatism was not always easy. It might be nothing more than a rough manipulation of the abdomen or ovarian compression as practised in cases of hysteria. Both of these procedures have caused the disease. Children more frequently than do adults suffer from the idiopathic variety. In them, the weight of the abdominal viscera is considerable, more so proportionately than in grown persons, while nature's protection, viz., the peritoneum and abdominal wall are structures of correspondingly less resisting power. A child cannot always tell what slight traumatism it may have sustained. Straining at stool, and blows upon the abdomen, especially when the stomach is full, are fertile causes. In the latter there is no external bruise. The bladder may be bruised by external violence when it is full, and even when empty a similar force may wrench its peritoneal attachments, and so light up internal trouble. In many cases the concussion produced by trifling jars and shocks is far-reaching in its consequences. There is a strain or rupture of the retentive peritoneal bands which hold the different viscera in place. From all these apparently insignificant causes local or general peritonitis may be set up. Many cases arise from previous cæcal and peri-cæcal trouble. Peritonitis following catarrhal inflammation in this region is far more common in children than in adults.

Now why is the diagnosis not made earlier in children? The reason is, the rapid extension of the inflammatory process before localization can be definitely made out. The early abdominal swelling precludes a satisfactory examination, and the lymph exudation does not have time to form before a general involvement occurs.

In regard to treatment, we have swung from opium to free saline purging. This latter the writer regarded as an objectionable extreme. The ancients opened the abdominal cavity in peritonitis, and we were returning to the same plan. The operation was a recognized one. Like all operations it had its limitations. In many cases a simple exploratory incision was all that was necessary. Opium and warm fomentations could be tried at the start, but if the case did not respond to such treatment, incision should be no longer delayed. The arguments were: 1. The analogy of the peritoneal process to that of other serous membrane inflammations. The relief of tension always assisted nature by the withdrawal of injurious influences or the sympathetic ganglia. 2. The removal of abdominal fluid lessened pressure on the heart. So also did the puncture of the gut with a fine needle, which allowed the escape of air and gas. It was his practice to also flush out the abdomen with hot water, either plain or weakly saline. A weak solution of boracic acid was also of service. Moderate dosage of salines could then be used. Operation did not jeopardize recovery. No case should be allowed to die without it.

Dr Hobart A. Hare, of Philadelphia, believed that we could cure many cases with opium and calomel. Hutchinson had suggested belladonna. Fitz, of Boston, had collected a large number of statistics on the subject. Medical treatment gave seventy-two per cent. of recoveries, while surgical treatment gave only eleven per cent. If the disease was due to perforation of the gut, salines would only increase the damage. He believed cold to be a very frequent etiological factor. In a sthenic case, the effused fibrine would organize; in an asthenic case the effused serum would be absorbed. Hence there was here no indication for operation.

Dr. John A. Larabee, of Louisville, also believed that opium would cure many of the cases caused by cold. He regarded constipation as a common factor. He frequently met with it in school children, where the cæcum sagged constantly on the iliac muscle while they were sitting so much, and allowed fæcal matter to lodge there. Intussusception might simulate peritonitis. Here early operation was advisable. But he had strong faith in opium as an allayer of inflammation as well as of pain. We should early discriminate between septic and non-septic cases.

Dr. I. N. Love, of St. Louis, pleaded for early and complete interrogation of the parents as well as the child regarding an overlooked injury. We should take time to this. We might be greatly helped, by so doing, in making an early diagnosis.

Dr. E. A. Wood, of Pittsburg, said we should not wait after our medical measures seemed to have reached their full effect. As soon as pus was in the abdomen, drugs could no longer help us. He regarded abortion as the most frequent cause of peritonitis in women.

Dr. O'Brien, of Pittsburg, called attention to the marvellous tolerance which some children exhibit toward opium in these cases. To a child in its seventh year suffering with peritonitis he had given fifty-five grains of morphine in forty-eight hours, the patient recovering.

Antipyrine in Children.—Dr. S. Henry Dessau, of New York, sent a paper which was read by Dr. William Perry Watson, of Jersey City. Title—"Therapeutic Value of Antipyrine in Diseases of Children."

He had used the remedy in pneumonia, chorea, pertussis, and urticaria. In pneumonia it not only relieved the temperature but lessened the nervous irritability. Dosage was two and a half grains in water every hour for four doses. Less might prove efficacious. In chorea he had had excellent results in seven cases; dosage here seven and a half grains four times daily. How it acted in chorea he did not know. It might relieve the rheumatic factor at the bottom of so many of these cases. Forty-five cases of pertussis had presented a shorter duration than with his previous methods of treatment. It was the chronic recurring form of urticaria rather than the acute that responded to the treatment.

Dr. Larabee thought that antipyrine caused a dangerous anæmia in many cases. It inhibited the oxygenation of the blood. In both pneumonia and chorea it was safe within limits by dilating peripheral vessels and so lessening the stasis in the lungs in the one case, and the brain in the other. Digitalis often failed us in pneumonia. Dr. Dessau's dosage might cause blueness.

Dr. McNeill, of Pittsburg, had noticed the latter symptoms, but had found that digitalis relieved them.

Second Day, Wednesday, May 21st.

The following papers were read by title "Intestinal Diseases of Children," by Dr. J. B. Pritchard, of St. Louis, Mo.; "Chloral Hydrate in the Treatment of Scarlatina," by Dr. J. C. Wilson, of Philadelphia, Pa.; "The Significance of High Temperature in Children," by Dr. W. L. Stowell, of New York City; "Phenacetin in Whooping Cough," by Dr. J. T. Winter, of Washington, D. C.; "Further Observations upon Tooth and Mouth Disease in Relation to Human Scarlatina as a Prophylac-

tic," by J. W. Stickler, of Orange, N. J.; "Tinea Capitis," by Dr. H. T. Dixon, of Evansville, Ind.; "Over-Medication during Childhood," by Dr. B. F. Hart, of Sweet Springs, Mo.; "Does Alcohol Conserve Tissue?" by Dr. E. Chenery, of Boston, Mass.; "Feeding in Wasting Diseases," by Dr. Ephraim Cutter, of New York City.

The Value of Sulphonal in Children's Diseases.—Dr. William C. Wile, of Connecticut, sent a paper with this title, which was read by the Chairman, Dr. Love, of St. Louis. Sulphonal was the ideal hypnotic. It was without the bad effects of opium and the uncertainty of the bromides. It could be given in ten-grain doses. It quieted reflex irritability. It did not constipate nor disturb the stomach. In one case in which a drachm was taken accidentally in ten-grain doses, there was a deep slumber lasting twenty-four hours, slight fever, but a normal pulse and respiration.

Atropine in Enuresis.—A paper, by Dr. R. B. James, of New York City, on "The Value of Atropia in Enuresis," was read by Wilson Cummings, of Bridgeport, Conn. He had used the remedy in doses of one one-hundredth of a grain, at six and at nine o'clock every evening. It acted well in nearly every case at the start. After the enuresis was once checked, it could be controlled by a smaller dose, but if the drug was discontinued a relapse would nearly always follow. In some of the favorable cases without relapse the writer had thought that the children outgrew the condition. Atropine could not be regarded, in his judgment, as a specific.

Dr. W. P. Watson, of Jersey City, had had to modify the very optimistic view expressed by himself at the meeting last year. His later experience had coincided with that of Dr. James. The passage of a sound might cooperate in the treatment and render less atropine sufficiently powerful.

Dr. Hare, of Philadelphia, preceded the use of atropine by that of an alkaline diuretic and diluent. The general experience of those present coincided with that of Dr. James.

Acute Rheumatism in Children.—Dr. F. S. Carson, of Boston, Mass., read a paper with the above title, which was a general *résumé* of the subject. He had found the combination of sodium bicarbonate with the salicylate to be of service.

Dr. Lewis, of Pittsburg, believed that in the early stages of the disease aconite could be advantageously used with the salicylates.

Several present had observed albuminuria as a result of salicylic medication.

Milk Sugar in Infant Feeding, was the title of a paper by Dr. E. F. Brush, of Mount Vernon, N. Y. The literature concerning this remedy was meagre. The commercial product, as used in "Meiggs's Mixture" for infants, had spoiled the milk in one case under his observation. Why, he did not know. Milk sugar in commerce came crystallized on a cob, and also as a coarse powder like barley-sugar. This article was not identical with the lactose as it occurred in the milk. The latter was all absorbed in the infant system, while the former was eliminated by both the urine and fæces. He had proved this latter point with Fehling's test. Milk sugar fermented with great difficulty. The commercial article contained about ninety-five per cent. of the true chemical compound, but it also contained many other crystallizable bodies as well as alkaloids of ptomaines. He believed that cane sugar was preferable to milk sugar as an addition to baby foods, but also that the effect of the sugar was over-estimated in any case.

Feeding in Wasting Diseases.—Dr. Ephraim Cutter, of New York City, read a paper with the above title, prepared by Dr. O. S. Phelps, of California, of which the points were as follows: 1. Don't blindly keep a child on the mother's milk if the latter is poor. 2. Don't add sugar to milk in any event. 3. The milk should be sterilized. 4. If milk cannot be borne at all, use beef essence and pepsin. 5. The so-called infants' foods are practically useless. 6. Even if a child could digest them, it would probably do just as well on milk thickened with the powder of twice-baked bread. 7. Many of the popular processes for removing the casein from milk are useless. 8. Solid general food should not be given till five years have been passed. 9. The bread made from entire wheat flour was preferable to that from the fine flour, as the latter was deficient in tissue-building materials.

Dr. E. F. Brush believed that the sterilizing processes "devitalized" the milk. What the "vital influence" was, we could not say, but there was some such thing. If we could be sure of getting pure uncontaminated milk, it was better not to sterilize it. He believed that our city milk supply would be benefited if consumers were willing to pay a higher price to some reliable man who would conduct his dairy business in accordance with our modern sanitary ideas.

Dr. E. O. Wood, of Pittsburg, Pa., believed that milk should be directly strained into a jar at the dairy, and then hermetically sealed. In that way it could be placed in the hands of the consumer in a pure state. He disapproved of using scale pepsin, preferring the glycerole of pepsin or some other fluid preparation. He used cane sugar rather than milk sugar.

Dr. Frank Woodbury, of Philadelphia, described a cheap sterilizing apparatus he had devised. He made the point that calf pepsin was far superior to hog pepsin in the predigestion of milk.

Dr. I. N. Love believed in a public regulation of the milk supply of large cities, as is now done with water. Certainly the former was practically as important as the latter.

Dr. Brush had found that milk could be better kept in dark-colored bottles than in those of plain transparent glass.

(To be continued.)

ASSOCIATION ITEMS.

The Committee on Dietetics.—In the general session on Thursday, the chairman of this committee, Dr. E. O. Wood, of Pittsburg, delivered his address, taking for his subject "Mastication as a Factor in the Development of the White Race in America." He took the view that the nation was slowly being destroyed by means of too well prepared food, whereby the necessity for mastication was in great measure removed. If children were given food which must be well chewed, and were compelled to moisten the bolus with their own saliva rather than allowed to wash it down with large draughts of tea, coffee, or other fluid, then their jaws would be well developed. There would be plenty of room for the teeth, and the jaws would be large enough to permit of a normal blood supply to them. Thus dental caries would be prevented, the beauty of the coming race would be preserved, and we would become a race greater in body and mind than the ancient Greeks. He begged his hearers to warn their patients against the evil consequences of neglecting to impress upon their children the obligation of mastication, and hoped that the rising generation would not be allowed to barter away its birthright for a mess of pottage or any other soft food. The speaker apparently forgot to note nature's instinct of self-preservation in substituting the chewing of gum for that of fried steak and other to-be-masticated food.

The Exhibits.—A fine display of drugs, surgical appliances, etc., was held in the Amusement Hall on Broad Street. Almost every one of the large manufacturing firms in the country was represented, and delegates and townspeople came from the building loaded down with invalid-foods and medicines enough to supply the ordinary needs of a suffering mortal for the next twelvemonth.

The Social Features.—On Tuesday evening a public reception was held in the Hall of Representatives at the Capi-

tol. On Wednesday afternoon there was a reception given by the ladies of Nashville to the wives and daughters of the delegates, in the Maxwell House. In the evening of the same day there was a concert in honor of the Association at the Vendome Theatre, and there were also three receptions given by citizens of Nashville in their own homes. On Thursday there was an excursion to the Hermitage, the home of Jackson, and in the evening a number of private citizens threw open their houses for the entertainment of the visitors. Finally, on Friday there was an excursion to the celebrated Belle Meade stock farm, situated about ten miles from the city. Many of the members of the Association availed themselves, upon their homeward journey, of the privilege accorded them to stop over a few hours to visit Mammoth Cave.

Hotel Accommodations.—We were taken to task a year ago for offering an objection to holding the meeting in Nashville on the ground that the hotels would be insufficient to accommodate all who might attend. But the event has justified our fears, for many delegates were unable to find accommodation at the hotels, and many more who found a place to sleep were not comfortable, and could not be made so by reason of the crowd. The attendance at the meeting was fortunately below the average, otherwise the sum of discomfort would have been extreme. The membership in the Association has grown to such proportions that none but the largest cities in the country can afford accommodations for those attending the meetings.

The Tennessee Pharmaceutical Association.—The third annual meeting of this society was held in Nashville during the meeting of the American Medical Association. Mr. W. L. Dowdy, of Memphis, was the president.

He Wanted to Attend Both.—After the Committee on Nominations had made its report, fixing upon the first Tuesday in May as the date for the next meeting, a member rose and said, somewhat excitedly, that that time would never do—it must be changed—for the East Tennessee Medical Association met at the same time, and if the date were not changed no member of the latter Society would attend the American Medical Association meeting. The other delegates thought, however, that it would be more simple if the East Tennessee Medical Association made the change in the date of its own meeting, and the member sat down again.

The Change in the Place of Meeting.—When the Committee on Nominations reported that San Francisco had been selected as the place for the next meeting there was but faint applause. Then a Philadelphia delegate recalled the fact that it had been determined to meet in Washington every second year. This seemed to meet with instant approval, which was not to be moved by the eloquent words of a member of the Omaha Medical Society, setting forth the beauties and the grandeur of that city, which (had not the lithographer disappointed him) he would have shown by a map to be the exact centre of the United States, if not of the universe. To Washington the Association was bound to go, and so it voted, almost unanimously. This necessitated a change in the Committee of Arrangements, and Dr. D. C. Patterson, of Washington, was nominated to fill that position.

The Many Bronzed Faces, surmounted by broad-brimmed felt hats, among the delegates, bore evidence to the fact that the place of meeting was in the South. The pale faces from the North looked a shade lighter when contrasted with the sunburnt features of their Southern brethren.

The Presidential Nominations.—For some years past the younger members of the Association have felt that they were not properly represented in the governing body, and this year they made a determined effort to capture the presidential chair. Two candidates were presented to the consideration of the Committee on Nominations, namely, Dr. Briggs, of Nashville, and Dr. J. W. Matthews, of Louisville. The latter was the young men's candidate but his friends soon saw that they could not gain their point, and Dr. Briggs was nominated on the first ballot by a substantial majority. The nomination was then made unanimous.

The Meeting a Third of a Century Ago.—This is the second meeting of the Association in Nashville, the first having been in 1857. At that time a grand ball was given in the Capitol in honor of the attending delegates. Of six members of the invitation committee four survive, and were present at this meeting. These are Drs. J. H. Callender, W. L. Nicol, T. L. Maddin, and C. L. Lewis.

To Enforce the Leprosy Laws.—In the Section on State Medicine, Dr. Lee, of Philadelphia, introduced a resolution recommending the American Medical Association to urge a stringent enforcement of the leprosy laws. He said that he had been informed by a physician of New Orleans that there were forty-two cases of leprosy in that city. This resolution was strongly opposed by Dr. Baker, of Michigan, who thought the time of the Association should not be taken up with leprosy when there were so many vastly more important measures demanding consideration. For his part, he would as willingly vote for a resolution calling for the national control of chicken-pox as for that of leprosy. Dr. Reeve, of Wisconsin, denied that leprosy was on the increase. Surgeon-General Hamilton, of the Marine Hospital Service, said that a very strict outlook for leprosy was being kept at all the sea-ports, and two lepers had already been sent away since the law went into effect. There were, however, a number of lepers at large in Key West. After some further discussion Dr. Lee's resolution was tabled.

The Medico-Legal Aspects of Laparotomy.—At a meeting of the Section on Neurology and Medical Jurisprudence, on Wednesday afternoon, an animated discussion was held in regard to the medico-legal relations of abdominal section. Papers were read and the discussion was participated in by Drs. Yandell, of Louisville, W. W. Potter, of Buffalo, Moyer and Kernan, of Chicago, McIntyre, of St. Louis, Crawford and Shimwell, of Pennsylvania, Marcy, of Boston, and Manly, of New York. The general opinion arrived at was that, though this operation might save life in certain cases in which death was inevitable without it, it should, nevertheless, be resorted to only when absolutely necessary, and even then not by everybody but only by those to whom a long surgical experience had given a high degree of operative skill.

A New Section.—In the report of the Committee on Dietetics presented at the general session on Thursday, a resolution was offered creating a new section, to be known as the Section on Dietetics and Physiology. This resolution was approved by the Association.

No More Discussions from the Stage.—Most of the subjects introduced during the general sessions are discussed chiefly by the older members of the Association, many of whom occupy seats on the stage, in virtue of the fact that they are usually ex-presidents, and are invited to take this place at the opening session. At the close of Thursday's meeting a delegate offered a resolution that in future meetings of the Association, the business of the general sessions shall be conducted entirely from the floor of the house, and no one occupying a seat on the platform, the secretary alone excepted, shall be recognized by the president. After some discussion the resolution was adopted, with an amendment permitting the president to recognize also the chairman of the committee on arrangements even though he might be on the stage.

The Army Delegates, detailed by the Secretary of War to represent the army medical department, were Dr. J. D. Baxter, chief medical purveyor of the army, and Surgeon A. A. Woodhull.

None but Members to be Admitted.—At the closing session a motion was made that cards be given to the members and delegates after they had registered and paid their dues, and that no one should be admitted to the general sessions during the first two days except upon presentation of this card. The object of the motion, as explained by Dr. Moore, was to keep out loungers, loafers, and dead beats generally. After some discussion, and several attempts to improve upon the suggestion by way of amendments, it was carried.

The Medical College Convention.—A meeting of the National College Association was held on Wednesday afternoon. The following officers were elected: *President*, N. S. Davis, Chicago; *First Vice-President*, Aaron Friedenwald, California; *Second Vice-President*, H. N. Didama, Syracuse, N. Y.; *Third Vice-President*, T. Menees, Nashville; *Fourth Vice-President*, Sam Logan, New Orleans; *Fifth Vice-President*, W. H. Pancoast; *Sixth Vice-President*, C. A. Lindsay; *Seventh Vice-President*, W. T. Peck; *Secretary and Treasurer*, Perry H. Millard, of St. Paul, Minn. The business committee recommended that all the colleges of the Association adopt a three years graded course; that the examination be both oral and written; that laboratory instruction in chemistry, pathology, and histology be required; that an admission examination be held, and that the secretary of each college transmit to the secretary of the Association a list of all the matriculants in his institution, together with a copy of the questions asked at the examination for admission. At the general session of the American Medical Association on Thursday, the secretary of the college Association presented a report setting forth in detail the rules adopted by the Association, which report was accepted with expressions of hearty approval by the general body.

The Section on Dermatology had some difficulty in finding a place to assemble, and held no meeting the first day. On Wednesday, however, the section accepted the hospitality of Dr. Morrison, of Nashville, and met in his office, where some interesting papers were read.

The Address on State Medicine.—Dr. A. L. Carroll, of New York, who was to deliver the address on State Medicine, did not respond when his name was called. The explanation was made that he was unable to attend the meeting, and that his address was already printed in the *Journal*, so it was read by title merely.

A Section on Materia Medica and Pharmacy was created. It is, like the Section on Dental and Oral Surgery, to have its own autonomy, and is to have a membership composed of both physicians and pharmacists.

Dr. J. M. Toner resigned his position as trustee of the *Journal*, and the vacancy so created was filled by the election of Dr. Moore.

Down on Ready-made Prescriptions.—During the last session a resolution was presented from the Tennessee Pharmaceutical Association, in session at the same time in Nashville, calling upon the American Medical Association to discountenance the use of the numerous proprietary compounds so persistently urged upon the attention of the profession. The resolutions were accompanied by an appendix setting forth the reasons for their adoption, mentioning in particular several much-advertised articles which were said not to correspond in their composition to the published formulæ. The communication was accepted and ordered to be printed in the *Journal*.

A Vote of Thanks was tendered the Secretary, Dr. Atkinson, who had so faithfully and efficiently served the Association for a quarter of a century.

The Vaccination Centennial.—It was resolved that the President of the Association appoint a committee to make arrangements for the celebration, in 1896, of the centennial of the discovery of vaccination by Jenner.

The Association of Medical Editors held its annual meeting on Monday evening in the lecture-room of the Vanderbilt Law School. The meeting was called to order by Dr. C. S. Briggs, and the address of welcome was delivered by Dr. J. Berrien Lindsley. Dr. I. N. Love then delivered the presidential address. He said that the complaint had often been made that there were too many medical journals, but he did not think so. As long as good work was done by any journal it had a right to exist. The law of the survival of the fittest would obtain here as well as elsewhere. Dr. F. L. Sims, of Memphis, read a paper on "The Needs of Medical Journalism," in which he urged especially that the prominent evils of the secular press be avoided at the same time that its enterprise be emulated. Dr. T. D. Crothers, of Hartford, presented a communication on "The Progress of Medical Literature," in which he took a very hopeful view of the future of medical journalism. Dr. Culbertson, of Cincinnati, thought that a medical editor should devote his whole time and energy to the care of his journal, making of journalism a real specialty. The following questions were proposed for consideration at the next meeting of the Association:

1. What has been the real effect of the rapid increase of free hospitals and dispensaries in all the larger cities, ostensibly for the care and treatment of the sick poor, during the last twenty-five or thirty years; first, upon the poor, and, second, upon the people as a whole?
2. What has been the effect upon the real interest of the medical profession?
3. What are the duties of those controlling the medical press relating to the foregoing questions?

The election of officers resulted in the choice of the following: *President*, Dr. F. L. Sims, Memphis; *Vice-President*, Dr. Frank Woodbury, Philadelphia; *Secretary and Treasurer*, Dr. J. C. Culberson.

The Association then adjourned to meet at dinner in the Baxter Court Café.

A Study of Endocarditis.—Twelve cases of endocarditis in man were examined by Dr. Wyssokowitsch. In the cases of acute and chronic endocarditis no micro-organisms were found; in the ulcerative cases, staphylococcus pyogenes aureus was found and cultivated. Malignant endocarditis, similar to that seen in man, was induced in rabbits by injuring the valves by means of a sound introduced into the left side of the heart through the right carotid, and then injecting the streptococcus pyogenes into the veins of the ear. The lesions were necrotic rather than inflammatory; and the same applied to the various emboli in the organs. The vascular lesions due to the micro-organisms occurred where the probe had rubbed the mitral valve, aorta, and carotid, as well as on the torn aortic valves. If the injection was made without passing a probe, or more than two days after its passage, no endocarditis ensued. When staphylococcus was used instead, the lesions were more decidedly suppurative, and the infarcts were suppurative rather than anæmic necroses. When the probe was introduced, but no injections made, there was no reaction at all. The micrococcus tetragenes, the bacillus pneumoniæ, and the septic coccus of Nicolaier produce similar results. It is noteworthy that the merest graze of the probe was sufficient to determine a malignant endocarditis if the animal were infected with micro-organisms within two days, but not afterward.—*The London Medical Recorder.*

Early Maternity.—It is reported in *The Lancet* that a girl, aged thirteen years and eight months, recently gave birth to a boy in the Vienna Foundling Hospital. The boy does not weigh quite three pounds, and is not likely to live.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, held in the Army Medical Museum, Washington, D. C., May 13, 14, and 15, 1890.

SECOND DAY, WEDNESDAY, MAY 14TH—MORNING SESSION.

(Continued from page 605.)

The Radical Cure of Hernia.—This was the subject of a paper by DR. W. T. BULL, of New York. The present paper was based upon the operations for the radical cure of hernia done by the author in the last seven years. The most essential feature of all the operations was the ligature of the sac at the highest possible point. The cases were divided into four series. In the first series, containing 40 cases, the sac was isolated and ligated with catgut. The portion below the ligature was dissected out when small. When large, or when it contained the testicle, it was drained. The wound was sutured and a drain left in the inguinal canal four days.

In the second series, containing 39 cases, the sac was treated as above and catgut sutures were applied to the pillars of the external canal and to the divided aponeuroses.

The third series, embracing 39 cases, was treated by ligature of the sac as before. The anterior wall of the canal was only divided when it was impossible to reach the neck of the sac in any other way. And the canal was sutured with two layers of sutures.

The fourth series embraces 16 operations on children between the ages of four and fourteen years of age. All these operations have been performed in the last six months and the method adopted has varied with the circumstances of the case.

Of the total number, 134 cases, the hernia was reducible in 77, irreducible in 42, and strangulated in 15. All the cases in series four were reducible. In the first series 14 patients were over fifty years of age. In the second series only 5 were over fifty years. This difference was due to my growing conviction that it was undesirable to perform the radical operation after this age except in cases of strangulation. The indication for the operation in children was difficulty in retaining the rupture with a truss, or absence of improvement under this treatment.

There were three deaths in the 134 cases. The first death was in a man of eighty years. The hernia was a large scrotal entero-epiplocele. At the same time the radical operation was performed on a large hydrocele of the opposite side. Death was due to shock and slight hemorrhage into the peritoneal cavity from an atheromatous artery in the omentum being cut through by a ligature. The second death was in a man aged twenty-six with irreducible epiplocele. A large portion of the omentum was ligated, heavy silk being used. Bleeding occurred and it was necessary to reopen the wound and apply a second ligature. Death was due to rapid septic peritonitis. The third death occurred in a case of a large strangulated scrotal hernia of twenty-four hours' duration.

In four cases the intestine was opened in separation of adhesions. These were at once sutured and no bad results followed.

In the first three series primary union has been secured in only about one-half of the cases. In the fourth all of the wounds with the exception of one healed primarily. The exception was in the case of an unruly boy who tore off the bandages.

Observation of these cases has given the following results as regards relapse. In the first series only 22 cases could be traced, with the following results:

Under observation four to five years, 1 case, no relapse.
" " three to four years, 2 cases, 1 relapse.
" " two to three years, no case.
" " one to two years, 9 cases, 1 relapse.
" " less than one year, 7 cases, 6 relapses

Of the second series 20 have been traced.

Under observation three to four years, 1 case, 1 relapse.
" " two to three years, 4 cases, 1 relapse.
" " one to two years, 10 cases, 4 relapses.
" " less than one year, 5 cases, 4 relapses.

Of the third series operated on by ligature of the sac and suture of the canal and ring, 20 cases have been followed. All these operations have been done within one year. There have been 11 relapses. Of the 16 children 5 have presented relapse.

By the first method of operation there has been 63.63 per cent. of relapses in 22 cases. By the second, sixty per cent. of relapses in 20 cases. This seems to prove that there is little to choose between these two methods. Comparing roughly the results by the first two methods with the third by considering the relapses occurring during the first year, we find that in the first series 6, or twenty-two per cent., relapsed in the first year; in the second series, 8, or forty per cent., relapsed in the first year, and in the third series, forty-two per cent. relapsed in the first year.

In regard to the effect of wearing a truss after operation, of the cases that relapsed 6 used the truss, 3 did not. Of the cases that did not relapse, 18 used the truss, 11 did not. I usually direct the patient to wear a light truss to support the weight of the abdominal contents.

I think that the operation is justifiable, for if it does not effect a cure it affords relief for a time, and it is attended with little risk except in the weak and aged. But all methods that have been proposed for the radical cure of hernia will be found unsatisfactory.

Anomalies of Hernia—Lumbar Hernia.—DR. CLAUDIUS H. MASTIN, of Mobile, read a paper on this subject. Since cases of lumbar hernia are of extreme rarity I feel justified in offering the history of a case which came under my observation at birth, and has been kept under notice for the last six years. The child, George H. L ——, was born March 12, 1884. Father and mother are both healthy, strong young people. With the exception of the hernial protrusion the child was healthy and well formed. When the child was two months old my attention was called to "a large wen" on the child's left side. I at once recognized the nature of the protrusion and advised the use of a supporting bandage. This advice was not thoroughly carried out. The case then passed from observation until eighteen months or two years ago. The patient is now a well-grown healthy boy of six years, and although wearing no support, he suffers no inconvenience from the protrusion, which now measures nine and a half inches in its long axis with a transverse diameter of nine inches. To the sense of touch the contents of the hernial sac appear to be the descending colon with a large mass of small intestine. The hernial mass appears to be just beneath the skin and transversalis fascia with no intervening muscular structure. The outer edge of the hernial opening is close against the transverse processes of the lumbar vertebræ. The whole abdominal wall on the left side appears thinned out and weakened. The crest of the ilium supports the lower margin of the protrusion. There is also a direct inguinal hernia on the left side. Two hours after a full meal, the tumor swells up and subsides after kneading.

The small triangular space bounded by the crest of the ilium, the margins of the external oblique and latissimus dorsi muscles, known as the "triangle of Petit," is a comparatively weak spot, where protrusion may take place but strangulation is very improbable. In the 33 cases which I have been able to collate, I find 3 cases only in which anything like true strangulation has taken place. In two an operation was resorted to for its relief. One recovered; the other died. One operation was done in 1738; the other in 1889. In only one case was an autopsy made. This was a case of Dr. Hutchinson's. An interesting feature was the absence of peritoneal sac.

In only one of the 33 cases can the hernia be considered of spontaneous origin. Of the 33 cases 27 were in adults, 6 in children, 3 of which were congenital; 17 were in males and 15 in females; 20 were on the left side, 10 on the right side, 1 on both sides and in 2 the side is not mentioned; 4 followed the track of an abscess. In 11 cases no cause is mentioned, 2 cases resulted from caries and necrosis, 1 was due to old age and prolonged child-bearing, 11 were caused by strains, wounds, or severe injuries. The spontaneous case was in an adult.

It is important that a clear diagnosis be made between lumbar hernia and abscess, tumors of kidney, etc. The knowledge that such a hernia is possible should put the surgeon on the alert.

The treatment consists of little more than protection against injury. In those cases where the opening through which the hernia passes is small and defined and symptoms of obstruction or strangulation become present, it may be proper to resort to a radical operation.

An abstract of the reported cases, 33 in number, with a complete bibliography of the subject, were appended.

Discussion.—Dr. Charles T. Parkes, of Chicago: My experience is based upon less than fifty cases of hernia, in which I aimed at complete removal of the sac, without any attempt at suture of the rings or of the tissues of the canal. I think that a radical cure will be attained as readily when no attempt at suturing the ring and canal is made as when this is done. I think, however, that it is important to remove the omentum in all cases where it is present. I have had the same experience in regard to primary union. In nearly one-half it failed to occur. While the operation is a desirable one, because it gives a certain amount of relief, it does not always effect a radical cure. The removal of the sac is of great importance. In three cases where I was unable to effect complete removal of the sac there was prompt return of the hernia. In two of these cases I subsequently removed the sac, and so far there has been no return. I have had about the same percentage of relapses as Dr. Bull.

Dr. J. R. Weist, of Richmond, Ind.: I have never attempted the radical operation except when operating for the relief of strangulated hernia. I have tried various methods. I think, however, that in every case the hernia has returned after the lapse of one, two, or three years.

The Propriety of the Removal of the Appendix Vermiformis during the Interval of Recurrent Attacks of Appendicitis.—This was the subject of a paper by Dr. Frederic S. Dennis, of New York. The question propounded is a new one, and one which cannot be positively answered at present. The view has been recently advanced that all inflammatory attacks in the right iliac region are dependent upon primary pathological changes in the appendix, and that the subsequent changes are secondary to the appendix disease. This view was not endorsed by the author. He had seen many cases in which the cæcum and pericæcal regions were the parts involved but in which the appendix was normal.

Inflammation in this region may be classed under the heads of typhlitis, perityphlitis, appendicitis, and periappendicitis. These different affections may exist independent of one another.

In determining the proportion of cases in which the appendicitis is recurrent, the statistics of Dr. Fitz were taken, showing that in eighty-nine per cent. the appendicitis is solitary, while in eleven per cent. it is recurrent. In the recurrent cases there are several forms of termination. The attack may terminate in resolution, in the formation of an abscess with the evacuation of pus, and in perforation and general peritonitis. Nearly all authorities agree that the majority of cases terminate in resolution. The whole practical question is with reference to those cases in which general peritonitis, the result of perforation, is likely to arise. If it can be shown that in the extreme emergency of a general peritonitis, laparotomy can save the patient, then the removal of the appendix during the quiescent period is deprived in great measure of the only support that can be claimed for its performance. Perforation does not necessarily preclude the possibility of recovery. Recovery has occurred after perforation, even when laparotomy has not been performed. Cases of this kind were related. It is evident that in the majority of the eleven per cent. recovery takes place. Perforation is the exception, and in some of these exceptional cases of perforation, recovery takes place.

What are the arguments against the removal of the appendix during the quiescent stage in these few cases in which the attacks are recurrent? They are: 1. The danger to life, which is great; 2, the difficulty of a positive diagnosis; 3, the development of ventral hernia; 4, the lack of conclusive evidence that excision of the appendix is attended with permanent relief; and 5, the result of the recurring attacks may afford immunity from danger in the future. Specimens were shown in which the appendix was converted into a fibrous cord, its canal having entirely disappeared.

In some of the cases on which operation has been done, it is impossible to find the appendix, or, when found, it may be adherent to blood-vessels, the ureter, or other important structures.

Taking the clinical and pathological material presented in connection with the fact that operation on the second or third day during an attack of recurring appendicitis is attended with such brilliant results and so light a mortality, is it not wise to decline operating during the quiescent period when the mortality is higher than it is from operation on the second or third day of the attack? From a consideration of the facts, it seems wise to condemn the operation of excision of the appendix during the quiescent period as a routine operation. Some special reasons should exist to justify the operation that are not present in the majority of cases of relapsing appendicitis.

Discussion.—Dr. Joseph Ransohoff, of Cincinnati: I have had no personal experience with operations for appendicitis during the period of quiescence. The majority of these cases of inflammation in the cæcal region have a natural tendency to subside spontaneously. The majority of cases occur in young individuals at a time when the lymph tissues throughout the body are prone to undergo degenerative changes. The entire mucous membrane of the appendix is nothing but a lymph gland spread out. Most cases of appendicitis are of a catarrhal character. In regard to the propriety of withholding operation during the quiescent period, I should agree with the author of the paper.

Dr. John Homans, of Boston: After considering the difficulties and disadvantages of the operation of removal of the appendix during the quiescent period, I should say that if the routine of business or pleasure were seriously interfered with by attacks of appendicitis recurring every three months, and life was filled with apprehension, and if the appendix could be readily reached then its removal might be attempted with propriety.

Dr. J. Ford Thompson, of Washington: Although I have operated many times for acute attacks of inflammation in this region, I have no experience with operations between the attacks. I could only imagine that such operation would be called for in cases which did not completely recover, and in which there was continually discomfort in the region of the cæcum. I have not met with any cases in which the operation seemed called for.

Dr. Wm. T. Bull, of New York: I hold very much the same views as have been expressed by Dr. Dennis. I would take a mild exception to the general condemnation of the operation. I believe that there are cases in which the propriety of this operation is to be considered. If the attacks occur so frequently as to interfere with the ordinary pursuit of business by the adult, or the ordinary amusements of the child, the operation can be considered.

Dr. W. W. Keen, of Philadelphia: My conclusions would be much the same as those of Dr. Bull. In those cases in which many attacks have occurred, the question presents itself strongly to me, would it not have been wise to have operated at an early period and prevented these frequent recurrences which lead to extensive exudation, and increase the difficulty of operation if such should later become necessary. Cases of recurrent appendicitis are dependent not so much upon catarrhal changes as upon ulcerations, concretions, and kinks of the appendix. It is to be distinctly understood that in these cases the operation is simply an exploratory one, and we are to be guided in our subsequent steps by the conditions found.

Meningeal Hemorrhage, Trephining, Ligation of Carotid.—Dr. Joseph Ransohoff, of Cincinnati, read a paper on the above subject. On March 12th, Jos. B——, aged twenty-eight, fell from a ladder a distance of eight feet, receiving a Colles fracture of the left forearm. At no time during the following week did he complain of any symptoms indicative of head injury. The morning of the eighth day he complained of headache and in a short time passed into a condition of unconsciousness. He was seen by the author three hours later breathing stertorously. Temperature normal; respirations, 28; pulse, 40; conjunctival and cutaneous reflexes wanting. Irregular twitching and tossing movements affected the face and extremities of both sides of the body. There was no paralysis. The right pupil was small and sluggish, the left dilated and fixed. The urine had a sp. gr. of 1030 and contained sugar. Examination failed to reveal signs of injury. Although the clinical picture was that of cerebral compression from subcranial hemorrhage and not that of diabetic coma, the possible presence of the latter condition could not be excluded. During the next five hours the pulse rose to 70 and the temperature to 101° F. It was then concluded to trephine over the left meningeal artery. No trace of fracture was found. A large clot was found and removed. This measured six fluid ounces. All hemorrhage ceased, a drainage tube was introduced and the wound closed. Six hours after operation, consciousness returned. The urine showed sp. gr. 1016, and was free from sugar. Nine days after operation, while the patient was straining at stool, a profuse hemorrhage took place. This ceased spontaneously. The next morning the hemorrhage recurred. Plugging with iodoform gauze failed to check it. The opening previously made was enlarged downward with the hope of reaching its source, but this failed. Nothing remained but compression or ligation of the carotid. Compression was precluded by the restlessness of the patient. The common carotid was therefore ligated. On account of the urgency of the case proper precautions looking toward asepticism could not be taken. The hemorrhage at once ceased. Suppuration occurred in both wounds. On the fifth day embolic pneumonia developed, but in four days this subsided. On the fifteenth day hemorrhage supervened from the carotid at the point of ligature. The bleeding came for the most part from the distal portion of the vessel. This was caught with great difficulty. The hemorrhage was checked, but the patient, who had lost consciousness soon after the artery gave way, failed to rally and died ten hours after all bleeding had ceased. A post mortem examination could not be obtained.

Officers for Ensuing Year: President—Dr. Claudius H. Mastin, Mobile; *Vice-Presidents*—Dr. J. Collins Warren, Boston and Dr. Stephen Smith, New York; *Secretary*—Dr. J. R. Weist, Richmond, Ind.; *Treasurer*—Dr. P. S. Conner, Cincinnati; *Recorder*—Dr. J. Ewing Mears, Philadelphia; *Member of Council*—Dr. Stephen H. Weeks of Portland Me.; *Chairman Committee Arrangement*—Dr. John S. Billings, Surgeon U. S. A.

The next meeting of the association will be held in Washington, D. C., in connection with the Congress of American Physicians and Surgeons, September 22, 23, 24, and 25, 1891.

Third Day, Thursday, May 15th—Morning Session.

Nephrorrhaphy was the subject of a paper by Dr. W. W. Keen, Professor of Surgery in Jefferson Medical College, Philadelphia, Pa. Mobility of the kidney exists in two varieties: First, movable kidney, and second, floating kidney.

A floating kidney has a mesonephron, and lies within the peritoneal cavity. A movable kidney lies posterior to the peritoneum, but may have quite as large a range of motion clinically as a floating kidney. It is distinguished anatomically, but it cannot be distinguished clinically. Unfortunately, movable kidney is generally overlooked, though quite frequent. For example, Shorszewsky found it to exist in 32 women out of 1,032 cases, and in 3 men out of 392.

Drummond has recently reported thirty cases observed by himself and Oser, of Vienna, and calculates that ten per cent. of mothers have this affection. It is more frequent in women than in men in the proportion of seven to one (Neumann, Landau), and is more than ten times as frequent upon the right side as upon the left.

Causes.—Floating kidney is always congenital. Neumann and Morris both cite undoubted instances. Movable kidney is commonly acquired as a result of a fall, blow, or any other traumatism, and not uncommonly from either frequent pregnancies or loss of fat.

Symptoms.—The diversity of opinion as to the desirability of operation varies with the appreciation of the symptoms. Thus, Landau thinks that operation is never justifiable; whereas Kepler advises immediate nephrectomy. Tait has operated upon but three cases, and he declares that he "will never have anything to do with fixation of the kidney." But the discomforts arising from movable kidney are many and decided, such as bearing down or dragging pain in the loins; gastric disturbances; fetid breath; vomiting, and, not uncommonly, marked cardiac symptoms. In women the disturbance of menstruation and various pains in the generative organs are very common. Besides discomfort, however, there is serious danger to life if the affection is not remedied.

Berry records cases of death six weeks after the diagnosis was made, and attributes it to rupture of an abscess of the kidney or of the urethra.

Neumann records 4 cases of intermittent hydro-nephrosis out of 21 observed by him, and in 5 albumin was present.

Kohler, Thornton, and others also record cases of hydronephrosis. A recent case of nephrectomy done by the author was necessitated by hydronephrosis following movable kidney.

The diagnosis is in general fairly clear. A movable tumor in the flank, of the size and shape of a kidney, which can be displaced to the iliac fossa, pushed back into the loin, and displaced to, or beyond, the middle line is indicative of the condition. A gall-bladder has in three instances been mistaken for a movable kidney. Percussion of the loin assists, but is less reliable than resistance to bimanual examination.

Sometimes the hilum can be made out, and the pulsating renal artery felt. The urine is generally normal, though it may contain albumin.

Treatment.—Treatment may be threefold. 1. By pad and bandage. This should always be tried first. 2. Nephrectomy. This is only occasionally justifiable. Its mortality is from twenty to thirty per cent. The mortality of nephrorrhaphy is only about two per cent. 3. Nephrorrhaphy. This was introduced into surgery by Hahn in 1881. The incision is made obliquely between the last rib and the crest of the ilium, beginning over the outer border of the quadratus, the perinephric fat being cut or torn through. Either the kidney or the liver may

be seen at once. The kidney may be so far away from its normal position that it will be necessary for an assistant to push it back. Mobility will not distinguish between the kidney and the liver, for a movable kidney will be as much affected by respiration as the liver.

One case was given by the author in which unintentionally the peritoneum was opened, as has been done by Hahn and others, in searching for the kidney. In order to distinguish between the two organs, the author advises that the upper border be sought for by the finger, as soon as the fat is torn through. If it be the kidney, the finger will readily reach its upper border, and be in contact with it behind the peritoneum. But if it be the liver, the upper border would be within the peritoneum and beyond reach.

In a second case the author had difficulty in getting hold of the kidney until it was harpooned by a tenaculum and drawn up into the opening and then seized with a volsella.

Traction with a volsella, even to such an extent as to tear through the kidney substance, has not produced any ill effects.

Four methods of fixation have been recommended. 1. By passing the stitches through the fatty envelope of the kidney. This method is regarded as insufficient. 2. By stitching through the fibrous capsule of the kidney. 3. By passing the stitches through the parenchyma of the kidney. Only occasionally has any blood been found in the urine. 4. Splitting and stripping back the capsule to obtain cicatricial union between the raw kidney substance directly to the surrounding tissues. The stitches are passed through the parenchyma where still covered by the fibrous capsule. Only four cases have been operated upon by this method, a number as yet insufficient to form a judgment as to its merits.

The third method has given the author very good results. The kidney seems to tolerate the presence of sutures for a long time without trouble, but whether in the degenerative changes of old age, or when the general health fails, they may become a source of trouble, time has not yet shown. The author condemns the stitching of the kidney to the ribs on account of its dangers. Both extremities of the kidney should be secured by sutures, with four additional sutures, two passing through the anterior and posterior lips of the wound respectively, and penetrating the kidney substance. The material that the author selects is fine silk, and he advocates that the stitches should be left in place. He recommends that the external wound be not sutured, as it closes quickly.

In the after-treatment he lays stress on keeping the patient in bed for not less than a month, and when she begins to go about, that a snug-fitting elastic bandage be worn.

The paper is accompanied with a table of all the recorded cases, one hundred and twenty-eight in number.

Four deaths have occurred. One not due to the operation, but to ileus. A second was fatal from inflammation of the pleura, due to stitching the kidney to the twelfth rib. In the third, death was caused by passing the stitches through an old embolic infarct, resulting in septicæmia; and a fourth, from later suppuration, probably the result of the operation.

The author has done four cases. The first has been published in the "Transactions of the Philadelphia County Medical Society," vol. x., 1889. For over a year the patient has continued in excellent health.

The second case, Mrs. M——, was operated upon October 16, 1889. She had suffered from great pain, gastric disturbances, dragging in the loin, and was rendered almost a permanent invalid. From childhood she had "had a queer feeling, as if she was not all right in the right loin," and two years prior to the operation she had a severe fall off a step-ladder.

At the operation the kidney slipped from the grasp of an assistant who was pushing it back in place. After tearing through the perinephric fat, what was thought to be the kidney pushed into place by the assistant proved to be the liver, and it was found that the peritoneum had been opened. The kidney could just be touched by the finger, and lay in the right iliac fossa. Harpooning it with a tenaculum, it was drawn into place and fastened by six silk sutures. It so completely closed the small opening in the peritoneum that it was not deemed necessary to close it by sutures. No ill effects followed, except considerable pain in the right hip and groin, presumably from bruising of the ileo-hyogastric nerve.

She made an excellent recovery from the operation, and is at present in excellent health, so far as the kidney is concerned, but is still suffering from some neurotic disturbances. Her highest temperature was only a little above 100° F., and fell to the normal on the fourth day.

While recovering from the nephrorrhaphy Alexander's operation was done, in order to fix a displaced and retroverted uterus.

The third case, Miss T——, distinctly traced her mobile kidney to reaching upward for a bale of goods. She "felt something give away" in the right loin, and asserts that she heard a "distinct snap." For three years she had been an invalid. On turning to the left side the kidney fell with a thud to the left of the middle line; the hilum could not be distinctly made out, but the pulsation of the renal artery was felt.

The operation was done February 18, 1890, and was followed by an uninterrupted recovery, the highest temperature being 99.8° F.

The fourth case, Dr. G——, a physician in active practice. For two years he had been obliged to give up his work, as the slightest exertion caused the most intense pain in the right kidney. The urine showed albumin and tube-casts. The pain was so severe that he often required a grain of morphia hypodermatically at a time. During the attacks of pain he has often passed blood. The right kidney was exceedingly painful and tender.

The patient and his father, both physicians, as well as Dr. O. H. Allis, believed that calculus in the kidney was probably the cause of the trouble. An exploratory operation was done March 6, 1890, with the intention of removing the stone, if there were any, or of doing nephrectomy if the kidney were disorganized. The moment the kidney was discovered it was seen to be exceedingly movable; respiration moved it at least two inches. Both to touch and sight it was normal. No evidence of stone or pus could be felt from the exterior. The kidney was then incised into the pelvis, which cavity was thoroughly explored by the finger. Neither pus nor stone was discovered. The bleeding was free, but not alarming. The wound was packed with iodoform gauze, and healed by granulation. The temperature rose as high as 103° F., but fell to normal on the twelfth day. He was exceedingly weak, and at first it seemed very probable that he would die. Gradually, however, he bettered, and on the eighteenth day he sat up.

At the end of six weeks the wound had closed; the urine was clear, with neither albumin nor tube-casts, and he has entirely given up the use of morphine for a month, as his pains have all disappeared.

The case was notable on account of the great severity of the symptoms and the difficulty of diagnosis from calculus or pyelitis. The results seem to show that the trouble was purely due to movable kidney. The symptoms were so grave that it seemed improbable that they were due simply to floating kidney. They seemed to indicate serious organic disease and threatened a fatal termination.

Surgery of the Liver, a paper by Dr. L. McLane Tiffany, of Baltimore, Md., was read by title. The following conclusions were presented: 1. The surgery of the liver is to be considered, as is the surgery of the rest of the body, not as surgery apart from everything else. 2. The liver may be cut, portions of it excised, tumors removed, bleeding arrested, and probably the flow of bile stopped by means at present in the hands of the surgeon. 3. Inas-

much as the liver is an abdominal organ, rigid cleanliness must be observed lest peritoneal inflammation follow. 4. The portion of the liver subjected to operation should be shut off as soon as possible, by suture or other methods, from the general peritoneal cavity, and healing induced by appropriate treatment.

The following papers were read by title: "Hypertrophy of the Prostate," by Dr. John A. Comingor, of Indianapolis, Ind.; "Lupus of the Tongue," and "Removal of a Retro-Pharyngeal Sarcoma by External Incision in the Neck," by Dr. David W. Cheever, of Boston, Mass.

The following resolution was presented and adopted:

"*Whereas*, In the treatment of fractures of the shaft of the femur the question often arises as to what is a satisfactory result in a given case; therefore,

"*Resolved*, That a committee be appointed by the President, to report at the next meeting of the Association, what, in their judgment, under the methods of treatment now employed, should be considered as satisfactory results."

The following committee was appointed: Drs. Stephen Smith, of New York; D. Hayes Agnew, of Philadelphia; David W. Cheever, of Boston; D. W. Yandell, of Louisville; Charles T. Parkes, of Chicago; P. S. Conner, of Cincinnati; C. B. Nancrede, of Ann Arbor, and Hunter McGuire, of Richmond, Va.

The following were elected to fellowship: Dr. A. Gerster, of New York; Dr. Robert Abbe, of New York; Dr. E. H. Bradford, of Boston; Dr. Oscar H. Allis, of Philadelphia; and to Honorary Fellowship, Professor Victor Horsley, of London.

The Association then adjourned, to meet September 22, 1891.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

TUBERCULAR ULCERATION OF THE BLADDER SUCCESSFULLY TREATED BY SCRAPING—AN ANOMALOUS CASE OF GASTRIC ULCER—DISCUSSION ON PYLORECTOMY AT THE MEDICAL SOCIETY OF LONDON.

LONDON, May 3, 1890.

THE tubercular affections of various organs seem to become more amenable to medical and surgical treatment, especially the latter. At the last meeting of the Clinical Society a remarkable case of tubercular ulceration of the bladder was narrated by Mr. W. H. Battle. The patient was a girl of twenty, who had suffered for ten months from frequent micturition; micturition was preceded by pain, which, however, did not accompany or follow the act. The urine was thick, and contained blood occasionally. The symptoms had gradually increased in severity, and when admitted into hospital the patient was obliged to pass urine every hour and a half or two hours, and had difficulty in retaining it; the urine was alkaline, sp. gr. 1.015, contained many pus and epithelial cells, and (occasionally) a trace of blood. The patient's mother had died from phthisis. The patient was examined under anæsthesia—the urethra being dilated—and an ulcerated surface was felt at the base of the bladder, about two inches in width by one and a half inch from above downward. This was rubbed with small sponges on forceps. Next day there was no pain. Cod-liver oil was given internally, and the bladder washed out twice a day with boracic solution. This was changed in thirty days' time for an acid quinine injection, there being but little improvement in the bladder symptoms, although there was less pus in the urine. The patient, however, was stronger and increasing in weight. A week later, she was examined again under ether and the cystoscope employed. The ulcer was found to be almost as extensive as on the former occasion; it was lightly scraped with the finger-nail and Volkmann's spoons, and sponges employed as before. Fifteen days afterward the patient left the hospital weighing fourteen and a half pounds more than on admission. Two months later she was readmitted. Injections—first of iodoform, and subsequently of balsam of Peru—were then used without any apparent benefit. A month afterward suprapubic cystotomy was performed. The rectal bag was employed, and the bladder injected with five ounces of warm boracic solution. The ulcerated surface in the bladder was exposed and scraped with a sharp spoon. After the scraping, a solution of chloride of zinc (thirty grains to the ounce) was dabbed over the surface. A self-retaining catheter was then passed into the bladder through the urethra, and a drainage-tube through the lower part of the wound. The upper part of the wound was closed with a silk suture and iodoform, and sal alembroth dressings applied. The urine was clearer by the fifth day, and the drainage-tube was removed. Six weeks later the patient could retain her urine for from one and one-half to two and one-half hours, and had no pain or discomfort; she left the hospital on the fifty-third day after the operation. She was now in good health, and able to hold her water for three hours. The tissue removed at the time of the operation was found to consist of tubercular material undergoing caseous degeneration. No bacilli were found, nor were any ever detected in the urine. It was suggested that the lesion was a primary one, not secondary to kidney disease. Primary tuberculosis of the bladder was rare, and the symptoms resembled those met with in some early forms of renal tuberculosis. Mr. Battle remarked that Guyon and Reverdin had treated the condition by scraping, and then touching the base of the ulcer with the thermo-cautery.

Some discussion followed the reading of Mr. Battle's paper. The President (Mr. Christopher Heath) asked whether Mr. Battle had been able to do more by his operation than could be accomplished through the dilated urethra. Mr. Raymond Johnson referred to a phthisical patient in whom a vesical ulcer had been much benefited by the use of iodoform emulsions. Mr. Harry Fenwick thought the diagnosis was imperfect, as no bacilli were found, and he did not think it possible to diagnose tubercular from scrofulous ulcers by the cystoscope alone. He also thought that, with a female patient, a surgeon could, by dilating the urethra, treat the ulcer by local applications. He used lactic acid for this purpose, and found the ulcers heal in the course of a few months; he mopped a five per cent. solution on to the ulcer, or injected a one per cent. solution into the bladder. Mr. Battle replied that he had only resorted to cystotomy after other milder methods of treatment had failed.

At the same meeting of the society, Mr. Barton read an account of a case of gastric ulcer in which symptoms of perforation occurred, followed by peritonitis. Improvement gradually took place, however, but a purulent discharge came away from the bowel, and on one occasion a quantity of horribly fetid gas was discharged by the mouth. The author thought that an abscess had formed after perforation, and that it had communicated with the colon. The patient recovered.

Pylorectomy constituted the subject of discussion at the last meeting of the Medical Society. Sir William Stokes, of Dublin, read a paper in which he narrated the history of the case, on which he had himself operated, and, after briefly referring to five other published operations, proceeded to discuss the general question, and especially in reference to the causes of the operation having been so unsuccessful in this country; only one successful case (Mr. Rawdon's) had been published, and that quite recently. Sir William Stokes considered that one great cause which had militated against success was the late period in the development of the disease at which the operation had been, as a rule, undertaken; hence he urged that in all doubtful cases exploratory measures should be adopted with the view of determining the nature of the disease, the existence or non-existence of adhesions,

and the presence or absence of much glandular infiltration. He regarded washing out or irrigation of the stomach as a desirable antiseptic precaution, and one which could be easily carried out without exhausting the patient. The protracted nature of the operation—as usually performed—was an important element affecting the result, as shock and ultimate collapse was thus likely to be induced. The operation could be shortened by abandoning the use of so many and such complicated sutures. The author said he felt confident that an efficient closure could be made by confining ourselves to the serous and muscular structures, and letting the mucosa take care of itself. Time would also be saved by the employment of the continuous suture—at all events in the curtailment of the pyloric end of the stomach. Another plan would be the employment of Senn's decalcified bone plates. He did not consider that the history of the operation should lead to its disuse.

The President (Mr. Knowsley Thornton) said he could not agree with the author that one could even rely upon obtaining perfect asepsis in these operations. He doubted whether the mere duration of the operation was to be credited with any great effect in determining the mortality. He thought much of the non-success was due to the fact of the operation being performed for malignant disease. He remarked that malignant disease within the peritoneum was characterized by a disposition to early diffusion, and this fact must necessarily militate against the ultimate success of the operation.

Sir William MacCormac urged that in the cases hitherto recorded the operation had been undertaken at a stage of the disease when the chances of successful intervention were reduced to a minimum. He could not conceive of the operation ever proving a success unless carried out at a time when the patient was far too well to induce him to submit to it.

Mr. Bryant pointed out that the effect of an exploratory operation was to aggravate malignant disease; apart from this fact, the wisdom of performing one at an early period could not be questioned.

Mr. Bowreman Jessett said he was the first surgeon in this country to put Senn's proposals to the test, and the results of his observations had been to fully convince him of the correctness of Senn's views.

Mr. Pearce Gould remarked that there were no symptoms in the early stage of malignant disease of the pylorus or until obstruction was caused, so that even the exploratory operation would not be of much use. Moreover, cancer of the pylorus usually proved fatal by causing obstruction; they had, therefore, to consider what was best to relieve the obstruction, and he thought gastro-enterostomy would be found the easier and safer operation.

Dr Giebart Smith mentioned a case in which pyloric obstruction had been found to be due to ulceration on the duodenal side of the pylorus; since that case he had seen several cases of sudden pyloric obstruction probably not cancerous in nature.

Mr. Barker observed that there must be something very wrong either in the diagnosis or treatment of these cases to have entailed such unfavorable results, seeing that in the hands of German surgeons nine operations for gastrostomy out of thirteen had proved successful.

Sir William Stokes, in replying, said he did not agree with Mr. Gould that there were no symptoms in the early stages of pyloric disease, for the existence of stenosis rendered the diagnosis possible. He thought that when the disease was too extensive to admit of the affected parts being removed *in toto*, then gastro-enterostomy might prolong life for a time, but the fact that the diseased tissues were left behind after an operation of such magnitude would have to be borne in mind.

A New Hospital, with a capacity of twenty-six beds, was recently opened near Bridgeport, Conn. It is in connection with the Soldiers' Home at Noroton.

OUTRAGEOUS QUESTIONS IN TAKING THE CENSUS.

To the Editor of the Medical Record.

Sir: Having read, with profound regret, the very able and strong letter of Dr. H. B. Millard in your issue of May 17th, that the following questions are the law of the land, to be asked by officers legally appointed, and to be answered by the PEOPLE:

"Whether suffering from acute or chronic disease, with name of disease and length of time afflicted?

"Whether defective in mind, sight, hearing, or speech; or whether crippled, maimed, or deformed, with name of defect?"

To ask such questions in ten millions of American homes, is too gross to contemplate; refinement, propriety, modesty, decency, every sentiment of mind and heart revolts at the bare suggestion—the cold, heartless, unsympathetic, and unprofessional census-taker, to be told at the hearthstone and family altar that the wife has chronic —— and the daughter acute- —— ! ! !

What were the men who framed these questions thinking about? Did they not hear from the shores of the Atlantic Ocean to the tops of the Rocky Mountains, and from these mountains to the shores of the Peaceful Sea, from every hill and valley in this great land, the echo answering no! no! no! The value of the census depends upon "facts" ascertained by the "truth"; there would be little truth and few facts in answer to these remarkable questions.

It is to be hoped that the journals and medical societies will at once step to the front and stop at the fountain-head, if possible, the attempt to perpetrate this great wrong; the wrong will never be accomplished; the attempt will annoy, worry, harass, not only the well and strong, but those suffering from acute and chronic diseases, afflicted with defects in mind, sight, hearing, and speech, the crippled, maimed, and deformed.

For more than two centuries the writer's forefathers have been citizens of Maryland; nearly every generation in the legislature they have assisted in framing the laws, by word of mouth, tradition, reading, and study; he has been taught that it was a great principle of American law, derived from the English law as expounded by Coke, "For a man's house is his castle," as quoted by Dr. Millard. Again Blackstone says: "Anything that is contrary to reason and common sense is contrary to the common law." He sleeps with his fathers, his words and thoughts of a past century are to-day burning in the minds and mouths of students, lawyers, and statesmen.

In no spirit of levity, the writer suggests, he has been taught that the Constitution of the United States forbids cruel and unusual punishments, and respectfully submits that no more cruel and unusual punishment could be inflicted by our laws upon innocent people, than in many cases the truth about the private infirmities of the daughter, the mother, the wife. Respectfully,

J. M. WORTHINGTON, M.D.

ANNAPOLIS, MD.

FEMALE PHYSICIANS FOR THE INSANE.

To the Editor of the Medical Record.

Sir: In the MEDICAL RECORD of May 3d there is a criticism of the act recently passed by the Legislature: "To provide for the employment of a woman physician in State Hospitals and Asylums," which is not marked by the fairness of statement and liberality of spirit we usually expect from the MEDICAL RECORD.

The act in question provides that in each such State institution, the physician-in-chief shall appoint, in addition to his present assistants, a competent woman physician as a resident assistant, "to perform such medical duties in and about the care of the women insane, as such superintendent or chief medical officer shall direct." There are at present six institutions to which this act

would apply. These, last year, treated three thousand four hundred and seven insane women, and not quite so many men. The six superintendents had under their direction twenty-six assistants. This act would add six women resident physicians, to do such part of the care of these three thousand four hundred women as the superintendent may allot to them. This can hardly be fairly described as "to compel them to employ female physicians for the female wards."

The superintendent is free to employ his male assistants in the care of these wards, and to limit the work of his female assistants as he sees fit.

As to the difficulty of filling six places with a salary of $1,200, there would probably be applicants enough; and the superintendent is free to require the same tests of fitness that he demands of his present assistants, while he can limit the duties of his woman assistant to what she can perform efficiently.

It would seem self-evident that among three thousand four hundred women insane, there must be many cases in which the attendance of a woman would be eminently suitable, and that of a man, especially of a young man, eminently unsuitable.

Your critic thinks women unpopular with women as physicians, and thinks it "hardly fair to take advantage of their lunacy to impose one upon them by law." But what of the women who would prefer a woman attendant? Is there no hardship for them in the present arrangement? This act gives for the first time the power of choice, subject to the discretion of the chief.

No permission to employ a woman assistant, as suggested, was requisite. There was no obstacle to such an appointment before the act. In the Willard Asylum there has for some time been a resident woman assistant. The present act, adding women as additional assistants, was intended to obviate any objection to curtailing the positions for men, and also to give a more authoritative expression of public opinion.

For this act was not the work of women physicians. It was not introduced for their benefit, nor with their knowledge. It is due to the strong feeling which has grown up in the lay element interested in these institutions, as to the impropriety of the system which takes advantage of their lunacy to impose exclusively male physicians upon insane women by law.

The act women physicians would ask for would be one to the effect that, wherever women are treated as patients in State or municipal institutions, there women should be eligible as physicians, upon the same terms as to qualifications, etc., as men.

We believe, some time, the MEDICAL RECORD, and other medical journals will acknowledge this claim to be simply justice to women, both as patients and as physicians.

AN OLD SUBSCRIBER.

THE FEES OF EMINENT MEDICAL MEN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Observing in your last issue an item about the large fees obtained by Dr. Sexton, Dr. Parke, and other expert medical counsellors in this country, it occurs to me that your readers may be interested in the following sketch of a successful English physician from the pen of a layman in the *Pall Mall Gazette*.

"SIR WILLIAM GULL.

"Sir William Gull was one of the ablest, most original, and striking personalities which a somewhat conventional profession has produced in this generation. Everything about him was picturesque; his humble origin as son of a village trader; his Napoleonic cast of face and feature; his brilliant conversation, teeming with epigrams, paradoxes, and quotations; his extreme simplicity of life at home, and his influence and reputation at court and in 'society' combined to make him one of the most notable and enigmatical personages of the day. A small adventure, which by a mere chance interview as a boy-guide introduced him to no less a person than the resident Governor of Guy's Hospital, was the opening event of his great career. The Governor was struck by the beauty and intelligence of the boy, and his frank story of his love of reading, and he promised him a free education. From the Bluecoat School, where he was trained, he was translated by his patron to the gallipots of Guy's Hospital, and, beginning with the humblest offices of pharmacy, he rose by dint of talent and hard work to the highest summit of fashion as a physician, the friendship of princes, and all the honors which the ancient universities could pour upon him. From the first, those who knew him intimately predicted his brilliant career. Of a manly and massive type of comeliness, and with fascinating manners he knew how to combine the graces of the courtier with the sagacious profundity of manner which is one of the secrets of success in the difficult career of a court physician. He cultivated the art of conversation with as much assiduity as the subtle methods of bedside diagnosis and palatable prescriptions. As an orator he possessed rare gifts, and when Gull was to deliver an oration, either at the College of Physicians or at any of the more popular medical assemblies, there was sure to be a crowded attendance, and there was always something well worth hearing. He delighted in paradox and in piquant generalizations. He did not fear to shock his professional brethren by a well-matured and aggressive incredulity of the value of medicines. The great mistake of the poor, he once told a popular audience, is that they cannot be reasoned out of their belief that disease comes by Providence and goes by medicine. His mint-water treatment of rheumatism shook the foundations of many a well established system of medication, and the results which he achieved by the adoption of what were at the time considered almost Nihilist theories of therapeutics made his wards in Guy's Hospital for the time more famous than popular.

"To those old-school practitioners who ticket every symptom and have a dozen drugs for every disease which they can label, Gull was a type of disappointment and despair, but even they had to acknowledge that he understood the man better than they could treat the disease, and that his patients worshipped him, and had a happy knack of recovering without swallowing all the time-honored doses of the Pharmacopœia. Many are the stories of his cleverness in disconcerting inquisitive patients by brilliantly ambiguous answers. To one great lady who was determined to gather from him what was the nature of the fatal illness of a patient as to which he was not willing to be too precise, he replied, 'Madam, she is dying of cachexia,' with which she was perfectly satisfied. He was an elaborate note-taker, and was wont to refresh his memory with notes of the past consultations before each patient was introduced into the room, so that old patients, and with justice, were delighted with the accuracy with which he recalled their histories and symptoms, and were sometimes wont to set this down to superhuman retentiveness of memory, and to an intense personal interest in their case, which sharpened their sense of surprise and gratitude. Great success, and the worship of all the duchesses, naturally translated itself into one of the largest contemporary professional incomes, and Sir William Gull acquired great wealth; but it might have been much greater but for his large generosity in refusing fees from those who could ill afford to pay them, and for the moderation of his demands where superfluous liberality would readily have increased his moderate fees. He was devoted to his hospital work, and would visit his wards late at night whenever an anxious case demanded his presence. He was idolized by the students, who delighted in his lucid diagnoses, his incisive teaching, and his philosophic generalizations. He was the friend of many a poor philosopher and struggling scientist. In thought he was a pupil of Spinoza and a friend of Hinton,

whom he did much to bring forward into fame and professional fortune, and to whose life he has written a touching and sympathetic introduction. Seldom has a court physician, well versed in the minor arts of life, shown so wide and catholic a love of science and philosophy for their own sake; seldom has a man been able to combine such brilliant material success with simplicity of life and devotion throughout a busy career to the higher forms of mental culture."

Sir William Gull was for many years a most popular consultant, and from one hundred to two hundred and fifty guineas for running down from London to Liverpool and other places, was not an unusual fee for his services. Of course, one thousand dollars a day seems a princely sum to receive, but the inconveniences attendant on a sudden journey are great, and the loss sustained by many days' interruption of business is often scarcely covered by these seemingly high fees. It would be a great mistake to conclude, because wealthy persons reward the consultant in so liberal a manner, that patients of lesser means are neglected; indeed, it will generally be found that an immense amount of professional work is done by eminent medical men without any pecuniary remuneration.

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Chicago, Ill., May 22, 1890.

THE BELLIGERENT BACILLUS AND THE WAR OF EXTERMINATION.

To the Editor of the Medical Record.

Sir: In the very comprehensive report of the proceedings of the meeting of the New York County Association, published in your issue of May 3d, there is an unintentional injustice done me by the reporter, who credits me with "expressing myself as more disposed to trust in nature."

Trusting in nature is eminently proper while nature is doing the work safely and well; but when, for any reason, those efforts are inefficient and unavailing, the time is at hand for intelligent assistance. To know when to give assistance, and how to aid nature, marks the difference between "granny's" help and that of the skilful accoucheur.

The writer intended to be understood as favorable to Credé's method, and endorsing what the author of the paper said in its favor.

The doctor, however, severely criticised traction on the cord, even though it was slight, as well as the introduction of the finger or hand for the purpose of aiding in the completion of the third stage. It is not a strained inference to say that there were no exceptions hinted at in the paper. Believing this to be unintentional, and to ascertain his views as to possible complications, the questions were asked: Is Credé's method always successful; was there such complications as "hour glass contraction," "adherent placenta," extreme uterine inertia, and, finally, central descent (as when the placenta is drawn down by a short cord during labor) forming a button-hole or suction obstruction?

In closing the discussion, the doctor answered the questions in part by stating: Credé's method, intelligently carried out, rendered those complications exceedingly rare. "Personally he could succeed in expressing the placenta during the course of three or four uterine contractions in ninety-nine cases out of a hundred. Where there was adherent placenta, and expression could not be effected in three or four pains, he would not hesitate to pass up his hand and remove it. He would, however, first thoroughly disinfect his hands with bichloride."

The point gained, then, by the question was, the admission that, in exceptional instances, Credé's method would fail. In these exceptional cases (at least one in a hundred, and, if not so skilful as the doctor with the method, there may be two in a hundred) we have permission or authority to introduce the fingers or hand, and complete the delivery of the placenta.

The above reference to cleansing the hands with bichloride solution, was a criticism on the casual remark of the writer, that soap and water was deemed satisfactory and sufficient.

The criticism was just and deserved, and the only excuse to offer is the difficulty in keeping track of the numberless "cockeyes," and the inconsistencies of the deductions of some of the theorists.

It is not ancient history when we were all using carbolic acid, and when they discovered that the bugs got fat and danced in the solutions we were using; then bichloride was, and is the fad, in spite of the alleged discovery that, in any strength we dare make use of, the germs prospered.

The great Yankee nation was not to be balked in that way. If the disinfecting solutions would not destroy the unruly cockeyes in the human economy, "Why, keep 'em out," cried one of our eminent and inventive gynecologists, and proceeded forthwith to invent a trap-door and, eureka! he had them. He called his invention an antiseptic pad. It allows of egress, but not of ingress. If the germs got out for a little fresh air, there was no return coupon; and by simply extending it—connecting the different pads with straps or ribbons—you had a "buck-fence" that shut them out of the anus, vagina, and umbilicus.

This apparatus will be of great advantage to the small boy, as it is easier of application than doing him up in antiseptic gauze before going in bathing; and since we have learned that the North River is chock-full of the "small bacilli" which are the cause of pink-eye, it will be necessary to take some precaution.

A large pad might be used at the Battery as a dam, and then the river might be disinfected with bichloride. It would not hurt the North River.

Daniel Brown, M.D.

New York, May 7, 1890.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 24, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	10	1
Scarlet fever	76	6
Cerebro-spinal meningitis	4	4
Measles	410	30
Diphtheria	113	26
Small-pox	0	0
Varicella	3	0
Pertussis	1	0

Surgical Geniuses.—Professor Hebra, of Vienna, used often to express himself in this wise: "It is necessary that there should be surgical geniuses, but don't ever let a surgical genius operate on you."

How to Prepare Sponges for Surgical Use.—Head Nurse Miriam Coogan, of the Gynecological Ward, Johns Hopkins Hospital, in the *Nightingale* for March 29, 1890, describes the process of preparing sea-sponges for use in her ward, as follows: 1. Beat well in muslin bag to remove sand. 2. Immerse in solution of muriatic acid, one ounce, to water one pint, for three hours to dissolve remainder of sand. 3. Keep for eight hours in hot running water. 4. Immerse in bichloride of mercury, 1 to 1,000, for ten hours. 5. Preserve in four per cent carbolic solution. Occasionally I bleach them by soaking for half an hour in a solution of permanganate of potassium, 1 to 20, afterward washing in pure water, then in saturated solution of oxalic acid. This is merely for æsthetic effect, and, as our sponges are never used twice, I seldom go beyond cleansing and disinfecting.

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Original Articles.

ON CONICAL STUMP AFTER AMPUTATION IN CHILDREN, WITH ESPECIAL REFERENCE TO ITS PHYSIOLOGICAL CAUSES AND PROGNOSIS.[1]

BY CHARLES A. POWERS, M.D.,

SURGEON TO OUT-PATIENTS, NEW YORK HOSPITAL; ASSISTANT SURGEON TO THE NEW YORK CANCER HOSPITAL.

IN September, 1883, while I was serving on the house staff of the Chambers Street Hospital, the following case was admitted to the institution:

G. H——, a boy, eight years of age, who had suffered amputation of the right arm, in its upper third, four years previously, presented himself with a conical stump at the seat of the primary amputation.

The end of the bone was covered only by skin, and this was adherent, tightly stretched, and showed commencing ulceration. The tissues were divided at the end of the stump, scraped back from the shaft, and two inches of bone removed by the saw. The wound was healed at the end of twenty days, and the patient was discharged. Reference to the history-books of the hospital showed that at the time of the original amputation the stump was well covered.

The boy is now fifteen years of age, and present examination shows that there is an osseous "teat" projecting from the middle of the end of the humerus. This teat is about one-half of an inch long and is shaped like a mammary nipple. The skin is adherent at its base on its upper and inner side. The old cicatrix is on the outer side of the stump. It is serpentine in shape, its upper extremity being two inches above the end of the bone.

The present condition is shown in Fig. 1.

FIG. 1.—Primary amputation in 1873. Re-amputation in 1883. This cut shows appearance of stump, March, 1890.

In November, 1886, I saw, in the clinic of Dr. W. T. Bull, at the New York Hospital, a boy, aged six, whose arm was to be re-amputated for conical stump. The primary amputation, through the upper third of the arm, had been done four years previously, and the resulting stump was typically well covered.

Two years after the original amputation, owing to growth in the humerus, the stump was conical, and bone to the extent of two inches was taken from its end.

Two years after this first re-amputation the stump was again conical, the end of the humerus projecting through the cicatrix and giving rise to much pain and trouble. One and one-half inches were taken from the end of the bone at this second re-amputation.

Fig. 2 shows the appearance which the stump presented at that time.

This boy was again in the New York Hospital in April,

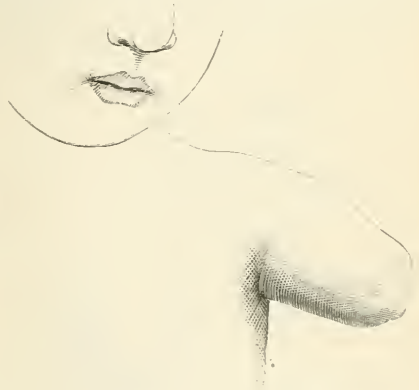

FIG. 2.—W. W——. Primary amputation in 1882. First re-amputation in 1884. This cut shows appearance of stump at the time of the second re-amputation, 1886.

1889, and I quote from his history in the hospital case-book: "The end of the bone is covered only by skin, and this is very tense and adherent. It is ulcerated over an area the size of a dime. The adjacent soft parts are painful and tender. An incision three-fourths of an inch long was made over the projecting end of the humerus, the skin reflected back, and the tissues cut away from the bone; one inch of the humerus was removed."

I present this boy to you now. It is one year since his last operation. The end of the bone is pressing well against the skin, yet that tissue is supple and non-adherent. Remember, if you please, that four and one-half inches of bone have been removed from his humerus since the original amputation in 1882. His mother says: "Every two years the bone grows down and has to be cut off."

In Fig. 3 the present condition of the stump is shown.

In the summer of 1887 I saw a boy, aged fourteen, who had suffered amputation through the middle of the arm during my service as House Surgeon to the Chambers Street Hospital three years previously. The boy's stump was distinctly conical, the end of the bone pressing against the tightly stretched skin.

The cicatrix, which at the healing of the primary operation was at the lower part of a well padded stump, was now at some distance above the end of the bone. Resection of the bone was advised, but refused by the parents.

In January of the present year the following case came under my observation:

[1] Read before the Section on Surgery, New York Academy of Medicine, March 10, 1890.

M. S——, a boy, aged nine, was brought to me for examination, his condition being as follows: The stump of the right humerus, which bone had suffered amputation at the junction, approximately, of its upper fourth with its lower three-fourths, three years previously, was the seat of an extremely marked conical condition. The shaft of the bone was continuous below, with a long, narrow, tapering, osseous projection. This projection pressed strongly against the tightly stretched skin which was adherent over its end, and which at that point showed commencing ulceration.

Firm palpation discovered the projection to be continuous with the shaft of the humerus and in the line of its long axis.

At the postero-external aspect of the stump was a semilunar-shaped scar, its convexity being downward. Its centre was $\frac{1}{4}$ of an inch above the end of the bone; its anterior and posterior extremities were, respectively, $1\frac{3}{4}$ inches and $2\frac{3}{8}$ inches above the point of the projection.

This was evidently the amputation scar.

The soft parts in the immediate neighborhood of the end of the stump were inflamed and sensitive.

As has been stated, this patient's arm had been amputated three years previously. Two years previously—one year after the original operation—he was seen by me. At that time the condition of the stump was in every

Fig. 3.—W. W——. Appearance of stump one year after third re-amputation.

way good. The soft parts over its end were abundant and freely movable. The cicatrix was below the end of the bone; the stump was painless. The parents of the patient[1] say that they have seen the end of the bone grow down, little by little, during the past year and a half. They have seen it press against the soft parts, and have seen the skin adhere and become ulcerated.

The present condition of this patient's stump is shown in Figs. 4 and 5.

Observation of these four cases of markedly conical stump, occurring in young children who had suffered amputation through the arm, has led me to make such investigation as I have been capable of making, and to introduce the subject for your consideration, propounding this question: "Is an amputation through the upper part of the humerus of a child liable to be followed by the development of a conical stump; and if so, what special factors are concerned in the production of this untoward result?"

From a prognostic point of view the matter is certainly one of importance. If a conical stump, one demanding secondary operation, develop after an amputation, opprobrium may, perforce, attach to the surgeon who originally operated; while if such event is to be expected in natural order, a corresponding prognosis is, of course, to be made.

Again, viewed from a medico-legal stand point, importance must attach to the subject. If a child loses a limb in a railway accident and compensatory damages are to be awarded, the jury have a right to know whether or not a future operation, with its attendant pain and risk, is probable, and to take account of such probability in making their award.

In point of fact I have reason to know that such fac-

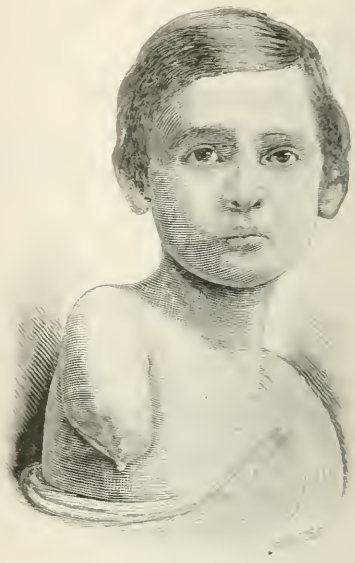

Fig. 4.—M. S——. Three years after amputation. Antero-external aspect of stump, March, 1890.

tors were brought up for consideration in the case of the last boy whom I have shown to you, and whose guardian brought suit against a railway company for the loss of the arm.

I have made diligent effort during the past week to investigate the remote results in all cases of amputation, in patients under twenty years of age, which occurred at the Chambers Street Hospital previous to the year 1888.

Fig. 5.—M. S——. Postero-external aspect of the stump shown in Fig. 4.

These cases were ten in number—three through the thigh, one through the forearm, and six through the arm. Of the thigh cases but one could be found, that one being a patient who, in 1877—he being then eleven years of age—had been amputated through the junction of the upper

[1] This patient and the two whose histories were first related were exhibited before the Section.

and middle thirds. He did not require subsequent operation, and the stump is at present in good condition. The patient whose forearm had been amputated could not be traced. Of the six arm cases all but one has been seen within a week, and that remaining one [1] is said to have died some years ago. Two of these cases developed "conicity," and their histories have been related. Each of the other three cases was in a boy who was fifteen years old at the time of the operation. Neither of these three has required a subsequent operation, though in each the bone has shown an increase in length which is very marked when compared with the growth in the soft parts.

In 1853 Denonvilliers [2] presented before the Société de Chirurgie of Paris a boy, aged seventeen, whose right arm had been amputated through its middle, ten and one-half years previously. Some time after the original operation a projection of bone was seen to be making its way into and through the flesh, and at the time at which Denonvilliers presented the patient there was a protruding necrosed point 3 ctm. in length.

At the same meeting Gueresant related the case of a young child whose arm he had amputated at the middle. Four years after the operation the patient presented a markedly conical stump, resembling that of the patient of Denonvilliers. The parents of the child said that they had seen this projection grow, little by little. Gueresant asked whether this condition was not due more to the physiological elongation of the bone than to the manner in which the original operation had been performed. Denonvilliers, however, thought faulty operation the more probable cause.

In 1859 Chassaignac [3] presented to the same Society a specimen of conical prolongation which he had removed from a femoral stump. Similar cases were related by Verneuil, Marjolin, Broca, and Bouvier, the latter asserting that elongation in the leg was due to the great growth which took place at the upper part of the tibia, and recommending that in amputations on children the flaps should be made of extraordinary length in order to make allowance for this natural elongation of bone. There was much difference of opinion among the members regarding the nature of the osseous projection.

As best I can learn, Verneuil [4] was the first to accurately describe the condition produced by elongation of the bone without inflammation and without retraction of the soft parts, and to this condition he has given the name of *conicité physiologique* of the stump. (I take the liberty of construing this literally, and make use of the word "conicity," as it seems to well express the condition described by the French writers.)

He says that it is seen principally in the arm and leg, because in these regions the superior epiphyses contribute so largely to the longitudinal growth of the bone. It is less often seen in the forearm and thigh, because of the lesser activity in the superior cartilages of the radius, ulna, and femur. He had seen a considerable number of such cases while distributing prothetic apparatus at the Central Bureau of the Parisian Hospitals, and he described in detail two cases which had occurred in his own practice.

This subject again engaged the attention of the Surgical Society of Paris in 1884, at which time Kirmisson [5] presented a boy, aged twenty, whose leg had been amputated sixteen years previously, and who, at that time, presented the following condition: At the centre of the stump there projected a long bony point 2 ctm. in circumference, separated by a transverse fissure into two tuberosities, of which the posterior was the longer and the larger.

It was difficult to determine which of these points belonged to the tibia and which to the fibula, but it seemed probable that both bones joined and fused. The skin over the end of this long bony projection was adherent and extremely sensitive.[1]

Kirmisson places treatment under two heads: First, prophylactic; second, the curing of the lesion when present in the stump.

Regarding prophylaxis he recommends the avoidance, when possible, of amputations in children; but when unavoidable, he advises that the flaps be made of extraordinary length, and that all possible means be employed to secure primary union in the wound.

Resection of the bony prolongation is to be employed for the relief of the conicity when that is present.

In the discussion which followed Kirmisson's paper, Farabœuf remarked that he had been surprised at finding that the growth of the skin had not been commensurate with that of the bone, and, without rejecting the theory of Verneuil, offered, as a possible explanation, the idea that when a stump is healed by primary union the deep parts, particularly the muscles, are not united as solidly as when the stump heals by granulation, and that as the ends of the muscles are left free they are able to retract, little by little, and to leave the end of the bone covered only by skin. Whatever the cause, he felt it wise, when amputating in children, to leave exceptionally long flaps.

Trélat believed, with Verneuil, that the conicity in children was due to elongation in the bone.

Berger spoke of a case which he had seen, in which an enormous hyperostosis had developed in a leg stump. He had found the morphological result to be the same as when the elongation was purely physiological.

Referring again to Farabœuf,[2] we find that at a later date he professes entire belief in the theory of elongation of the bone, saying that "when a young child is amputated just below the knee, both epiphyseal cartilages are left; they have been irritated by the operation, and may in years produce a growth of bone which is equal to one-half the length of the limb, while the soft parts grow only sufficiently for one-quarter of the member. Analogous processes may take place in other bones, but more especially in the arm. Farabœuf advises that flaps be made of such length that they may be ample for the bone in its future physiological development.

Schede refers to the French writers and agrees with their conclusions.

Mr. Bernard Pitts says:[3] "After amputation through the shaft of a single bone, such as the humerus or femur, the stump generally becomes a little conical in time, owing to atrophy of the soft parts.

"In young subjects, with active growth of the bone going on, this condition of stump is sometimes extreme, the end of the bone, covered by stretched skin or cicatricial tissue, projecting very much like the stick of a half-opened umbrella; and this may take place in a stump which was originally well formed."

T. Bryant says:[4] "At times, however, stumps grow and become conical, and in the amputations of childhood this condition must be expected. It is best seen in the leg, as it so happens that the shafts of bones grow most where they come in contact with the larger epiphyses, and in the leg the one entering into the knee-joint is the larger."

Spence[5] alludes to the growth of the bone after amputation in young persons, this growth giving rise to projection of the cicatrix and conical stump. His own observation led him to believe that the bone may continue to grow in the young, and thereby tend to produce conical stump.

He refers to a case of amputation of the upper arm

[1] Dr. F. W. Murray, formerly surgeon to the Out-patient Department of the Chambers Street Hospital, tells me that while on duty at the hospital he saw a young child whose arm had been amputated through its upper part, and who returned to the institution some years afterward with a stump so markedly conical that the bone protruded through the soft parts. As I can account for all other cases I believe it to have been this child.

[2] Bulletin de la Société de Chirurgie, t. iii., p. 430.

[3] Ibid., t. ix., p. 450.

[4] Mémoires de Chirurgie, vol. ii., p. 830.

[5] Bulletin et Mémoires de la Société de Chirurgie, vol. x., p. 521.

[1] A number of the French observers relate cases in which this *saillie longue* was seen. They correspond very closely with the boy S——, whose stump is shown in Figs. 4 and 5. I am at a loss to know what determines the shape of the projection.

[2] Manuel opératoire, p. 129.

[3] Heath's Dictionary of Surgery.

[4] System of Surgery, p. 1024.

[5] Lectures on Surgery, vol. ii., p. 741.

performed by Mr. Liston in which the bone projected in an extreme degree and terminated in a hook-like process.

The practical deduction is, that in performing amputation on the young we should leave rather a redundancy of soft parts, in order to obviate the effects of the osseous development.

Watson[1] says: "It has been supposed, in some cases, that a failure in the growth of the soft parts to keep pace with the development of the bones had occasioned conical stumps, but additional proof is required to establish this point."

Ashhurst[2] says: "Hypertrophy of the bone is observed in patients who have not attained their full growth, and principally in amputations of the leg and upper arm. Its occurrence in these, rather than other situations, is accounted for by the well-known fact that, owing to the direction taken by the nutritious arteries in the several bones, and the consequent period at which the epiphyses become united to the diaphyses, the chief growth in the lower extremity is from the epiphyses in proximity to the knee, while that of the upper extremity is from that of the wrist and shoulder. Hence amputation of the thigh and forearm remove the principal sources of growth for the portions of bone which remain, while amputation of the upper arm and leg leave these sources, and in a few years the bones of stumps in these situations may be too long for the soft parts which were originally ample for their covering. If any treatment is required in a case of this kind, resection of the overgrown bone is the only remedy likely to be of service."

[Since the preparation of this paper three additional cases of conical stump have come under my observation. One of these was in a child, the other two were in young adults. The first was a boy, aged twelve, whom Dr. J. A. Wyeth exhibited before the Surgical Section of the Academy of Medicine on the evening on which this paper was read. His right humerus was amputated through its upper third when he was four years of age; when he was eight years old his parents found the end of the humerus coming through the soft parts, and took him to Dr. Wyeth, who re-amputated the arm. In March of the present year the stump was again conical. The end of the bone was pointed, and pressed firmly against the skin, which was adherent and ulcerated over this point. The appearance of the stump corresponded closely with that of the boy M. S——, shown in Figs. 4 and 5. I am indebted to Dr. Wyeth for courteously placing his notes on the case at my disposal.

The second case was seen at the Roosevelt Hospital, in the service of Dr. Charles McBurney, who very kindly permits me to embody a description of it here.

The patient was a young man, aged twenty-three, whose left arm had been amputated through its upper third when he was eight years old. The resulting stump presented a freely movable flap of good length, and it remained in excellent condition for four or five years, at the end of which time he noticed a slowly increasing protrusion of bone, and the stump began to pass into the condition which was present when the patient came under Dr. McBurney's observation.

At this time, there was a nipple-like protrusion of bone at the lower end of the humerus; this projection was about one and one-quarter inches in length, symmetrical, and covered by a very thin and closely adherent layer of integument. There was a tender lump about the size of a hazel-nut lying in the soft tissues on the antero-internal aspect of the stump about two inches above its tip. This lump was movable and painful. A longitudinal incision was made over the tumor and it was dissected out. It proved to be a neuroma. A circular incision was made in the soft parts, about one and one-quarter inches above the tip of the stump, the parts dissected back, and two and one-eighth inches of bone removed. This portion of bone is a part of the shaft of the humerus, and longitudinal section through it shows the medullary canal to extend, undiminished in size, to its extreme end.

Fig. 6—from a flash-light photograph, taken by Dr. Sinclair Tousey, of the Roosevelt Hospital house staff—shows the conical stump before operation.

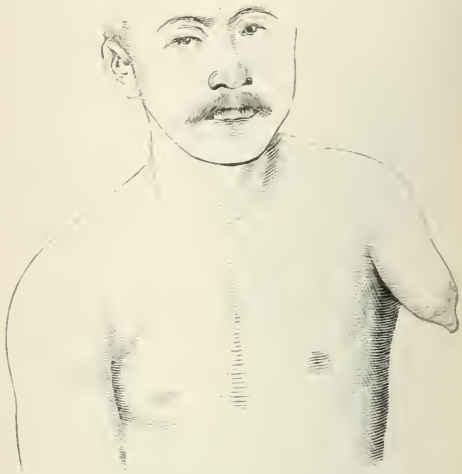

Fig. 6.—Patient twenty-three years of age. Amputation at the age of eight years.

In Fig. 7 the cut surfaces of the removed fragment are shown, the medullary canal being exposed.

The third case was shown by Dr. F. Tilden Brown, at a meeting of the Surgical Section of the Academy of Medicine, held on April 14th. The patient was a young woman, twenty-eight years of age, whose left leg had been amputated a little below the middle when she was six years old. When she fell under Dr. Brown's observation the stump was distinctly conical; it presented at its centre a long, tapering, bony projection, very similar to that shown in Dr. McBurney's case, though it was, I should think, rather more oblique. The skin was adherent over the end. The tibia, only, seemed to be involved.

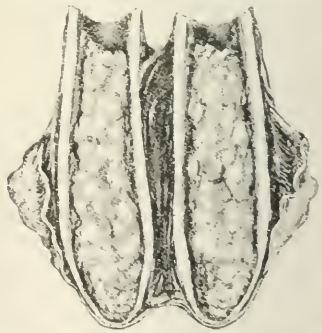

Fig. 7.—Section through bone removed from stump of patient shown in Fig. 6. The medullary canal is seen to extend to the end.

These last two cases were not in children, but they followed amputations on children and seem to bear directly on the theory of Verneuil to which previous reference has been made.]

I do not know that I can add anything in way of comment to the cases cited and the opinions quoted. The former comprise all of the cases[1] of amputation in young children of which I have been able to obtain personal knowledge, and it would seem highly improbable that the

[1] Amputations and their Complications, p. 357.

[2] International System of Surgery, vol. i.

[1] The majority of these were under the care of Dr. W. T. Bull, to whom I am under much obligation for permission to publish histories.

conicity in each of these is accidental, and that they are coincident. Certainly, no one can doubt that the long bones increase in length more by addition to their ends than by interstitial deposit. Take the humerus, for example. There the chief point of growth is at the upper end, where the epiphyseal centre is the first to appear and the last to become fused to the shaft. Here we have the constant ossification of the layers of cartilage ("Holden's Osteology") which intervene between the epiphysis and the shaft. These layers of cartilage constantly grow on the one surface while they ossify on the other.

Given an amputation through the humerus of a child, at a point not far below this epiphyseal line. The ossification of the cartilage is not interfered with, and increases the length of the fragment far out of proportion to the relation, in length, which the fragment itself bears to the original length of the bone. The growth in the soft parts is commensurate only with their length, and less in extent than normal because of atrophy and retraction.

Thus we may conceive that this constant osseous deposit in the epiphyseal cartilage tends to press the end of the bone into and through the soft parts.

The following propositions are submitted:

1. Amputation through the arm or leg in children may be followed by a conical condition of the stump, and this sequel is a probability rather than an improbability.

2. This conicity may be physiological, and independent of inflammation or retraction in the soft parts or of osteophytic deposit at the end of the bone.

3. The younger the child and the nearer the seat of the amputation to the upper epiphysis of the limb, the greater the probability of early conicity. These factors should be considered when making prognosis.

4. The weight of extant authority favors flaps of excessive length, but this measure may not prevent development of the conical condition.

5. When the conical condition is present, the only suitable treatment consists in the resection of a sufficient portion of bone.

6. Successive re-amputations may be required.

7. The above considerations may apply, but with very much less of force, to amputations through the forearm or thigh.

[The recorded cases of conical stump in children are few in number, and it would seem of value to gather all possible additional information.

I would, accordingly, request physicians who have observed amputations above the wrist or ankle, in patients under eighteen years of age, to kindly send me a brief note, stating the seat of the amputation and the ultimate condition of the stump.]

35 West Thirty-fifth Street.

The Importation of Foreign Natural Mineral Waters.—At a meeting of the New York County Medical Association, held May 19, 1890, the following resolution was adopted: Resolved, That the New York County Medical Association, a representative body composed of five hundred practising physicians in the city of New York, believing that it is for the best interests of the people of the United States that all foreign natural mineral waters should be imported free of duty, respectfully urges upon the National Senate and House of Representatives that the provisions now in force relating to foreign natural mineral waters, and to the bottles in which they are imported, should be re-enacted in any tariff which is sanctioned by them.

Missions to Medical Students.—In London Gospel missions are given from time to time to medical students, and inducements in the way of abundant, if not particularly rich or dainty, refreshments are held out to them to attend the services.

THE ADVISABILITY OF WIRING RECENT SIMPLE FRACTURES OF THE PATELLA.

By WILLIAM F. FLUHRER, M.D.,

VISITING SURGEON TO BELLEVUE AND MOUNT SINAI HOSPITALS.

The operation of antiseptically opening the knee-joint in a recent simple fracture of the patella has now been done many times, often with brilliant success, but sometimes with less happy results. In this paper I propose, mainly from my own experience with the operation, to discuss the questioned advisability of its performance.

After much hesitancy I directed and supervised my House Surgeon in performing the two following operations:

Case I.—Wiring seventeen days after fracture, under continuous irrigation with boro-salicylic acid solution; infolded fibrous tissue upon the broken surfaces of the fragments; bony union with flexion to forty-five degrees for four and a half years, when, from accidental rupture of adhesions, full function of the joint was recovered.

G. G——, aged forty-two, harness-maker, was admitted into Bellevue Hospital, November 6, 1883.

The patient, while walking, fell, striking his right knee upon the curbstone. He was then unable to stand.

Upon admission the right knee was found contused, swollen, and tender. The patella was broken transversely through its middle, the fragments being separated about one-fourth of an inch; the limb was placed upon a posterior splint, and an ice-cap was applied to the knee.

November 15th a plaster-of-Paris splint was applied to the limb. The region of the knee-joint was exposed and the fragments held together by strips of cloth saturated with plaster of Paris, used according to the plan of the late Dr. J. L. Little.

Operation, November 23d.—The patient having consented to the wiring of his patella, the joint was opened, under irrigation with a solution of a mixture of boracic acid five grains, and salicylic one grain, to the ounce of water. At first a longitudinal incision five inches long was made, but this not giving sufficient room, a transverse incision was also made, completely opening the joint. A large clot between the patellar fragments was removed, the ruptured fibrous tissues over the patella, which had turned in over the fractured surfaces, leaving only a small margin of the bone exposed, were cut away, and the fragments, having been drilled, were held together by three wire sutures. On account of the long exposure of the joint, as an additional safeguard against infection, it was finally flushed with a five per cent. solution of carbolic acid. The joint was drained at the open ends of the transverse incision and by a catgut drain through the outer aspect and lowest point of the synovial pouch. The wound was closed with catgut sutures, but to avoid tension the thickened tissues were allowed to gape at the middle of the longitudinal incision. The wound was dressed antiseptically; an anterior plaster-of-Paris splint was applied, and the limb finally suspended. The patient rallied well from the anæsthesia and shock of the protracted operation, which had lasted about three hours.

December 7th.—The joint was exposed under irrigation, and the gaping portion of the longitudinal wound is granulating healthily. There is no swelling or inflammation. The transverse incision was healed by first intention. The catgut drain has been absorbed. The limb was redressed in the same manner as at first.

December 28th.—The wounds have all healed except a small granulating patch at the middle of the longitudinal incision. A plaster-of-Paris splint was applied.

December 29th.—The patient was allowed to leave his bed.

January 26th.—The plaster-of-Paris splint was removed, and passive motion and hot douching of the joint ordered to be practised daily.

March 31st.—The patient was discharged from the hospital, with bony union of the broken patella, but scarcely any motion in the joint.

The patient was reluctant to attempt moving the joint, but from reliable information it was learned that in June, 1886, he had the power of flexion through forty-five degrees, and that there had been no refracture of the bone. He at that time was able to work at his former occupation.

October 7, 1889.—Till about one year and a half ago he could flex the leg only to an angle of forty-five degrees. At that time, while walking along a narrow foot-path in the dark, he fell ten feet into a gravel pit, striking upon his feet and forcibly flexing both legs. He heard a cracking and tearing in the right knee-joint during the forced flexion. In spite of great pain he walked about a mile, observing that he could bend the knee with more freedom. The next morning the joint was very much swollen, but he went to work, walking by the aid of a cane. In three or four days the swelling subsided and the motion was then as perfect as it is now.

Upon examination there was found complete power of extension and flexion. There is a crucial scar over the patella, the central limb being adherent to the patella at its lower portion. The scar is very thin, and through it can be seen the two small wires inserted at the operation. The scar is bluish over them, and the danger of their ulcerating through upon slight injury seems so great that their removal is strongly advised. The upper and larger fragment, in its union with the lower one, shows that there was a slight displacement outward at the time of wiring. The patella is lengthened one-eighth of an inch. It has free lateral mobility. The right thigh is one-half an inch less in circumference than its fellow. The patient states that it has grown considerably since he recovered freer motion in the joint.

Case II.—Fracture of the left patella, in 1870, from direct violence; injury not recognized or treated; permanent crippling of the limb.

July, 1883, fracture of the right patella from direct violence; ligamentous union, with fair amount of function, in four months; five months after injury, rupture of the ligamentous union; wiring of the fragments twenty-three days after the re-fracture; continuous irrigation with boro-salicylic acid solution; imperfect approximation of the fragments; ligamentous union; joint stiff at end of three months; ultimate recovery of full power of extension and flexion without stretching of the ligament.

P. C——, aged twenty-seven, truckman, was admitted into Bellevue Hospital, December 13, 1883. On January 13, 1870, while at work, a cake of ice fell from a wagon and struck him upon the left patella. He fell to the ground and could not rise. The knee swelled and became ecchymosed. The doctor in attendance failed to recognize the true nature of the injury. The patient remained in bed about two months, the leg meanwhile becoming flexed. At the end of two months he began to walk about the house with the aid of chairs, and six months from the receipt of the injury, being unable to resume his former occupation, that of an ice-man, he became a truck-driver. He has always been obliged to favor the injured leg which has remained in about the same condition ever since.

On July 14, 1883, while some men were raising a heavy stone, the "dogs" slipped and the falling stone struck the patient upon the right knee-pan. He felt something crack, and fell to the ground. He tried to rise, but failed, and was carried home. The knee became ecchymosed and very much swollen. A splint was bandaged to the limb. By November 6th he could walk fairly well, and went to work.

December 8th he fell from his truck, bending his right knee under him. He felt something tear in the joint, was unable to walk, and the knee became very painful and swollen.

Upon admission the right knee was swollen and painful. There is a transverse fracture of the patella at its middle, with three-fourths of an inch separation of the fragments. On account of the old fracture of the left patella the patient is unable to extend that leg. Cold applications were made to the right knee-joint.

December 25th.—The pain and swelling are nearly gone.

Operation, December 31st.—The right knee-joint was opened by a transverse incision between the fragments. Irrigation with warm boro-salicylic solution was practised almost continuously during the whole operation. A thin ruptured ligament was found between the fragments. The underlying surfaces of the fragments were composed of a layer of very dense bone, which was cut away till a freely bleeding cancellous structure was reached. The fragments were drilled for two wires, but when these were passed it was found that the bones could be brought in contact only at their lower cartilaginous edges, and that they were separated by a wide gap at their upper surfaces. The synovial pouch was opened and drained with catgut at its most dependent part, at the outer aspect of the joint. Into each angle of the incision, which was well prolonged downward, was placed a medium-sized rubber drainage-tube. The different structures were sutured in separate layers with catgut, and the limb enveloped in an antiseptic dressing, and then suspended.

January 2d.—The patient complains of a dull pain in the operated knee.

January 13th.—The dressings are changed for the first time. The deep portion of the wound has united, but the superficial portion has opened through a too-early absorption of the catgut sutures. The limb was redressed, antiseptically, and placed upon a posterior splint.

February 1st.—The wound has all healed, except where it parted superficially. The patella fragments are apparently united. The posterior splint is still applied.

March 17th.—The wound is almost healed, and the patient is permitted to walk about.

March 21st.—There is a small ulcer on the outer side of the popliteal space surrounded by indurated tissue, and discharging a yellow serous liquid. Dressed with iodoform and gauze.

March 28th.—The patient eloped from the hospital with no motion in the joint. The wires had previously been removed.

In July, 1885, I had the opportunity of examining the patient.

In the left knee there was a transverse fracture of the patella near the middle, without even a ligamentous union of the fragments, which were separated three and one-half inches when the limb was quiet in the extended position. The upper fragment could be brought downward one inch. The ligamentum patellæ was so much shortened that the lower fragment was close against the tubercle of the tibia. Some of the lateral aponeurotic fibres of insertion of the quadriceps were very much hypertrophied, but there was no power of extension. This knee sometimes swells and pains him.

The right knee shows no line of depression between the patella fragments, which, when carefully tested, have a slight independent motion, laterally. They are united by a firm, short ligament that has not lengthened as function of the joint has been regained.

When the patient left the hospital the knee joint was solidly stiff, and he walked without crutch or cane. In about six weeks he could bend the leg to a right angle with the thigh, and in two months had perfect function. The knee, tested by working at the same occupation as before injury, was in every respect just as strong as it was when in normal condition.

Each of the above detailed operations lasted more than three hours. This was mainly due to a faulty plan of procedure, and led me to remodel the operation with a view of reconstructing the joint in the most complete manner, in the shortest time. I shall describe the different steps of procedure with a minuteness justified by their importance in contributing to a successful result.

The operation, it is always to be borne in mind, is undertaken only for the sake of restoring the function of

the joint, and since other methods of treatment often yield good results without danger to life or limb, the onus laid upon this operative procedure is that it shall produce better function in the limb with safety to the patient. In all steps of the operation, therefore, the factor of safety of the life of the patient should be of controlling importance.

The antiseptic measures are as follows: The operator and his assistants thoroughly cleanse their hands and forearms with soap and water and then disinfect them by repeated immersion in a 1 to 30 watery solution of carbolic acid. The same kind of antiseptic solution used for the skin disinfects the instruments, which should lie in the bath for at least twenty minutes before commencing the operation. The patient's uninjured extremity is wrapped in a blanket, and further protected with a waterproof covering of rubber cloth or other material. The whole of the injured limb is thoroughly scrubbed with soap and water. The region of the operation receives especial attention, and the whole circumference of the limb for quite a space about the knee-joint is thoroughly lathered and shaven clean. The soap is then washed off with a warm 1 to 30 solution of carbolic acid or a 1 to 2,000 bichloride of mercury solution. The leg and thigh are separately enveloped in towels soaked in a 1 to 2,000 bichloride solution. The towel covering the leg and foot should be held in place by a few turns of antiseptic bandage. The thigh towel may be secured by pins, and should be loosely applied so as not to constringe the limb. Around the limb at the knee-joint, which has been left bare for an extent of about eight inches, is wrapped a towel soaked in a 1 to 30 solution of carbolic acid; it infringes upon the leg and thigh coverings and is pinned together over the anterior aspect of the limb. The operating-table should be so arranged that continuous irrigation can be carried on without wetting the bedclothes. Care should be taken that the limb is not sunk in a trough, but that the whole construction for irrigation shall allow free access to the operative field.

The limb, thus enveloped, is further isolated from contaminating contact with a wide area by means of towels wrung out of a 1 to 2,000 solution of the bichloride of mercury, placed beneath it and covering encroaching bedclothes. After all these preparations have been completed, and not till then, the patient is etherized. Meanwhile the limb is preserved extended in position and the towel about the knee-joint is kept wet with the warm carbolic-acid solution.

The irrigant employed is a warm solution of the bichloride of mercury. The strength of the solution is determined by its irritant effect upon the cavity of the joint and the intensity of the septic impression to be combated. Keeping in mind always the safety of the patient, the strongest solution should be used that will not produce injurious irritation. In a pure atmosphere sterilized water will doubtless preserve the asepticity of the wound, yet there can be no objection, even in the most favorable surroundings, to employing the strongest defence that is efficient against a highly charged septic atmosphere, provided the solution is not unduly irritant. The strength I have fixed upon after some experience is 1 part of bichloride to 4,000 parts of water. With this strength of solution adhesions form in the joint. Since they do not prevent the recovery of function it would be an unjustifiable line of experiment, for the purpose of avoiding adhesions, to determine how weak a solution can be used under exposure to the strongest risk of sepsis. The chance of poisoning from absorption of the mercury may be dismissed from consideration. I have seen no such effect in any wound from the use of solutions of 1 to 1,000 and weaker, having always, however, been careful that accumulations of the solution have not been left in cavities of the wound. The solution should be a little more than blood warm, to avoid lowering the vitality of the joint. The irrigant should flow continuously or with short interruptions over the wound from the beginning to the end of the operation. The weaker the solution the more the reason that the exposure breaks in this antiseptic medium should be as few as possible.

The patient having been fully anæsthetized the operative field is exposed by simply unpinning and laying back the towel enveloping the knee. During the whole operation the limb should not be flexed but always remain in the extended position. An assistant now directs the irrigating stream in an even sheet over the field of operation.

The operator stands next the injured limb, his principal assistant opposite. In this, as in most operations conducted under irrigation, to diminish the risk of miscarriage of asepsis, I restrict my assistant to the use of one sponge; it must not leave his hand, and indeed, had best be tied to his wrist; it may be cleansed, as required, under the stream of the irrigant. The assistant to hand instruments, while a convenience, is not absolutely necessary, and may be dispensed with. Throughout the operation the operator and assistants, after having once been disinfected, should not contaminate themselves by touching anything not disinfected, but persistently remain aseptic.

A transverse incision about three inches long is made through the skin over the anterior aspect of the joint in the interval between the fragments. Too much force should not be given to the stroke lest the lacerated subcutaneous tissues be unnecessarily sliced. Generally when the skin is incised the joint is opened and there is an escape of bloody liquid and clots, but exceptionally the immediate subcutaneous tissues are intact while the deepest layer is lacerated. The joint having been opened, the left forefinger is introduced, and by a delicate touch the extent of the rent in the capsular structure is appreciated. The skin incision is then extended to fully expose its limits. In recent fractures it seems to me that the transverse incision should be preferred to a longitudinal one, as it exposes the torn capsular structures for operative repair. In old fractures it would seem, however, more advantageous to adopt the longitudinal incision for the better access to the upper fragment and the tendon of the quadriceps. Since, however, in three instances of refracture that were compound that have come under my notice, the transverse scar was in each instance the starting-point of the laceration opening the joint, I am disposed to regard with some favor the longitudinal incision. While the torn capsular structures may not be so easily reached and effectively repaired through such an incision, yet these disadvantages might be outweighed by the diminished risk of the refracture becoming compound. Perhaps it may be better to locate the scar away from the plane of fracture by opening the joint by a curved incision with the convexity above, thus forming a flap. An oblique incision has the disadvantages of the transverse and longitudinal ones without a compensating gain. The clots in the interval between the fragments are gently cleared away with the fingers and the irrigating current. Let it be borne in mind that the cavity of the joint before incision is, from a surgical stand-point, absolutely pure, and that the purpose of the irrigation is not to cleanse the joint of impurities, but to afford an antiseptic protective envelope for the tissues during the surgeon's manipulations; and, since the antiseptic solution is also an irritant the surgical procedures should expose the delicate synovial membrane as little as possible to its action. In gently removing the clots there may be found, if the fracture is several days old, the delicate membrane described by Van der Muelin extending between their lower fractured surfaces from cartilage to cartilage. This structure, which is probably the organized under-surface of blood-clot, is so delicate that it breaks under very gentle disturbance, and then is but an incomplete partition between the fragments shutting off the cavity of the joint. It may be disregarded and wiped away. The torn capsular structure covering the patella, and most likely found infolded over the fractured surface of one or both fragments for a greater or less ex-

tent, are greatly peeled from the underlying bone by means of a sharp spoon. These tissues should not be pushed away from their normal attachment at the upper surface of the bone, baring it of periosteum; neither should this tissue be cut away unless it be so shredded as to be clearly lifeless. It should be preserved to cover and strengthen the line of fracture. The fractured surfaces are lightly scraped free of clots or granulations by the sharp spoon, and the bones are then ready for drilling. The skin-flap is sufficiently retracted and the crotchet drill (see Fig. 1) is pushed through the immediate covering of soft parts to the bone, in which it is engaged by giving it partial rotatory motions, always under light pressure. The drill should never be withdrawn till the hole is drilled, but constantly urged onward by rotatory motion and even pressure. The finger watches for its egress, and as the point nears the surface it is made to cut its way slowly with lighter pressure. Thus handled there is no danger of fouling or breaking of the drill. My own drills are more delicate than those generally sold, and I have not yet broken one. It drills a hole just large enough to take the wire. Too large a hole exposes the bone to the risk of a partial caries. As a general procedure the fragments should be drilled from without inward, the point of the drill passing toward the cavity of the joint. Exceptionally one of the fragments has such lax attachments that it can be tilted, so that the drill can be inserted at the bony cartilaginous junction. The fragment at the surgeon's right hand should be drilled with the right hand, the left hand fragment with the left hand. A loop of silk is thrown over the hook in the drill and is drawn through the bone. When the silk cannot be adjusted to the hook of the drill with the fingers it can be lodged in position by the fork shown in Figs. 2 and 3. In case these loops lie away from the joint they are easily reversed by using them as guides to draw new loops into position. To prevent their displacement the ends of the thread are drawn through the loop. In case there is much difficulty in retracting the skin the drill may be driven directly through the skin and intervening soft parts covering the bone, and afterward entered alongside of the wire where it comes through the skin, and carried along the destined path of the wire superficial to patella. A loop of silk drawn after the drill enables the operator to pull the tapered end of the wire back through the skin into position. See Case No. VII.

FIG. 1.—*a*, Crotchet Drill, two-thirds actual size; *b*, end of Drill, actual size.

For the nice approximation of the fragments only one wire should be used. A large piece of bone broken from a main fragment may be wired to it, but small pieces that fit into place do not require suturing.

In drilling, a large bite of bone should be taken, by entering the drill a considerable distance, say about three-fourths of an inch, from the edge of the fractured surface. If the bone is drilled near to its fractured edge the wire is apt to cut through the thin layer of cancellous structure. It is an error not to carry the wire deeply. A superficially placed wire hinges the fragments by their upper edges, and the fragments may be separate at their lower edges while they are in contact above. This may account for the failure to secure bony union in some cases after wiring. While it is desirable to drill in a line projected through the bony cartilaginous junction on the fractured surface, it is better in erring to carry the point of the drill further back, having it emerge through the under surface of the cartilage rather than higher up on the fractured bony surface. In the former case the wire can be sunk to the bone, as was done by Lister, by gouging away the overlying cartilage. The wire may pass over the cartilaginous surface of one fragment to that of the other with no evil effects. In the case of a soft suture, as silk-worm gut, I am inclined to think this the preferable plan of placing the suture. When the drill emerges in a faulty position upon the bony surface, the change of its direction must be corrected by its re-insertion. It is important that the deep portion of the suture shall pass from one fragment into the other at corresponding points, else the sutured pieces will be upon different planes, and through the lessened amount of bony contact the patella will not be ultimately restored to its maximum strength. Again, the wire passing out of the cancellous bony structure is more apt to tear in the bone when tightened, than when it dips through to the cartilage. Wire No. 3 or 4 of the French catheter scale is of the most advantageous size. Larger wire cannot be easily manipulated.

By the method of procedure that has been detailed the surgeon is enabled to suture the fragments with any kind of suture, under all conditions of breakage, with a minimum disturbance of the structures of the joint. At the same time, the simple hand-drill enlarges the scope of the touch, an advantage not afforded by more complicated drilling machinery.

The fragments having been drilled and the conducting loops of silk lodged in position, provision is made for drainage by introducing the author's large aluminum probe, properly curved and armed with a drainage-tube, beneath the fragment into the most dependent portion of the synovial sac at its outer aspect. The end made prominent beneath the skin is cut down upon, and the opening, if necessary, enlarged by the blunt bistoury. The thread carrying the drainage-tube is thrust through into view, and the drain-tube pulled into position. The curved dressing forceps passed into the joint may be used instead of the probe to make the opening. Care should be taken that the tube does not extend too far into the synovial pouch, and that it is not closed by being pinched against the external condyle of the femur. The free delivery of the tube should be attested by slightly lifting the upper fragment as the irrigating stream is directed into the joint. After being cut short to the surface of the limb, it is held from inward displacement by a safety-pin. The wire or other material used for the suture is pulled into position through the bones, by means of the guiding loops of thread. If wire is used, its ends are tapered and bent sharply, to catch into the loops of thread and offer no resistance in passing through the bone. The ends are drawn from within the joint outward, through the fragments. The soft parts over the patella are incised, so as to allow the suture to sink to the bone when it is fastened. The wire is twisted by hand five or six turns, cut short, and its stump turned down. The torn synovial membrane and capsular structures, as well as the edges of the incisions made to sink the wire, are brought together, without trimming, by a medium-sized continuous catgut suture. Sometimes two layers of capsular structures can be distinguished and separately sutured. Careful suturing of these layers not only adds to the strength of union of the fragments, but, to some extent, protects the joint from infection proceeding from the skin incision inwardly. The skin wound is best united by interrupted sutures of coarse antiseptic silk, rather widely inserted. If the skin gapes between the sutures, its edges may be held in perfect apposition by a continuous suture of the smallest catgut. It is advisable to leave the dependent angles of the skin wound quite open for drainage. If there has been much dissection of the connective tissue between the capsule and the skin, either by the knife or injury, pieces of small-sized drainage-tubes should be inserted at the appropriate places in the wound, or through counter-openings, to prevent wound secretions from accumulating in the pockets. The irrigation is not stopped till the sewing of the wound has been completed.

The limb is dressed in the following manner: A narrow strip of protective is placed over the line of incision, to prevent adhesion of the dressings to the wound. The region of the wound, especially about the drainage-tubes, is dusted with iodoform. Bichloride gauze, wet in a solution of 1 to 30 carbolic acid, is wrung nearly dry, and loosely applied about the joint. Over this layers of bichloride gauze are applied, covering in several inches on the thigh and leg. When a sufficient amount of gauze has been applied to absorb at least the discharges for four days, the limb, from the ankle to the groin, is enveloped in a layer of "combined dressing," consisting of a sheet of borated or bichloride cotton held between layers of antiseptic gauze. This is bandaged in position with antiseptic bandages. Five or six perforated tin strips, invented by the author for immobilizing bones in the treatment of simple and compound fractures, are placed upon the anterior surface of the limb, and secured by an antiseptic bandage. Finally, the limb is placed in a well-padded fracture-basket of wire gauze, and, if more agreeable to the patient, it is suspended.

The wound should be redressed about the fourth day, and the drainage-tubes removed. This dressing should be conducted with all the care of the primary operation so far as relates to antisepsis. The wound should be exposed under irrigation with bichloride solution not weaker than 1 to 2,000. Especial care should be used to irrigate about the drainage-tubes, as the tubes are removed, but the streams should not be forced into the joint. It is probable that the drainage-tubes fulfilled within the first twenty-four hours the purpose of drainage, but the objection to their earlier removal is the chance of disturbance of a barely united wound.

The next dressing of the wound can be postponed for a week or ten days, when the silk sutures may be removed.

Motion in the joint should be commenced, the wound having soundly healed, by the third week.

The purpose of wiring the bones with strong wire, in preference to using a weaker suture, as already stated, is to afford opportunity for early motion in the joint without separation of the fragments. If motion is to be delayed till the bone is solid, the wire suture should be discarded, and with it the remote risks attendant upon refracture. When the fragments are wired the patient is most likely committed to a second operation in case of refracture, and this may take place under circumstances that are very disadvantageous. Inasmuch as patients practically refuse to have the wire removed after its temporary usefulness has passed away, it becomes a question, in view of the risks entailed by a refracture, whether the wire should ever be used. Certainly the principal justification is its firmly holding the fragments in the early period of motion in the joint.

The sooner motion is begun in the joint after the wound in the soft parts has healed, the quicker will its function be restored; at first the motion should be passive and gentle, with the idea of not provoking any irritation. After a few days the patient should practise active motion, flexing the leg without lifting the heel from the bed. The reviving of the function of the synovial membrane, the suppling of the soft parts by massage and douches, the stimulation of the muscles by the will, prepare the way for an increasing range of motion. The gain in the amount of motion should not be forced out of proportion to the rate of progress toward health in the soft parts; otherwise irritation and reaction will be provoked and the progress retarded. The patient should be encouraged to persevere in increasing the range of motion till full power of flexion is achieved.

A suitable protective apparel limiting the range of flexion will guard against refracture.

The following instances of operation were under this improved method of operation.

Case III.—Simple fracture of the patella from direct violence; wired on the ninth day under constant irrigation with 1 to 2,000 bichloride solution; infolded fibrous tissue upon the fractured surfaces; drainage-tubes removed on seventh day after operation; primary union; passive motion begun after four weeks; bony union of the patella; at end of one year motion to a right angle.

J. R——, aged twenty-one, was admitted into Bellevue Hospital, October 12, 1884. The patient, a healthy man, while partly under the influence of beer the day before his admission, was clubbed by a policeman upon the left knee, knocking him down. He could not rise unaided, but with the assistance of friends walked to Chambers Street Hospital, where a splint was applied. He was then sent to Bellevue Hospital.

Examination shows the left knee to be swollen. There is a transverse fracture of the patella through its middle, with three-fourths of an inch separation of the fragments. A posterior splint was applied to the limb and an ice-cap to the knee.

October 21st.—The patient was operated upon before the class of the Post-Graduate Medical School. Irrigation with a warm solution of bichloride of mercury, 1 to 2,000, was continued throughout the operation. A considerable quantity of clotted blood was removed from between the fragments, which were exposed by a transverse incision. The torn aponeurotic structures on the anterior aspect of the patella were turned in upon and adherent to the fractured bony surfaces of both fragments, thus completely preventing bony contact when the portions of bone were brought together. This tissue was lifted, but not cut away. Both fragments were drilled from without inward toward the cavity of the joint. In addition to the tube inserted through a counter-opening on the outside of the joint at the most dependent portion of the synovial pouch, a short piece of small tube was introduced through a gap at the inner side of the patella. The capsule and aponeurotic expansion of the quadriceps were separately sewed with catgut continuous suture; the skin incision was closed by interrupted sutures, between which was run a fine continuous catgut suture. The operation lasted one hour.

October 25th.—The patient had some pain in the knee for two days after the operation.

October 28th.—The dressings were removed under irrigation. They were soiled by only a small amount of discharge. There is primary union of the skin-wound and less swelling of the knee than before the operation. The drainage-tubes were removed and the limb was redressed as after the operation.

November 10th.—There are only two small granulating surfaces that mark the places of exit of the drainage-tubes. The limb is redressed as before.

November 18th.—The wounds are entirely healed and the bony union of the patellar fragments is apparently firm. A posterior splint was applied.

The highest temperature after the operation was 100.8° F. It was normal after the fourth day.

November 21st.—Passive motion was commenced, and the leg flexed through ten degrees without any exertion and with very little pain.

November 22d.—Passive motion is practised daily.

November 24th.—All apparatus is removed and the patient voluntarily exercises the joint.

December 9th.—The patient was allowed to go home. He walks without assistance from crutch or cane.

December 27th.—The patient walks well without limping. He can bend his knee to an angle of forty-five degrees. The patella is freely movable. He was this day discharged from the hospital.

October 10, 1885.—The patient has motion to a right angle. The skin is loose and slides over the subjacent tissues in the region of the scars. The patella is somewhat enlarged, especially laterally, and it is not quite so movable laterally as the opposite one.

March 16, 1886.—There is good lateral motion of the wired patella, which is somewhat enlarged longitudinally and transversely. The patient has perfect command

over extension, but can flex the leg only to a right angle with the thigh. He states that he has never taken any pains to bend the knee further than required in walking. He never has pain in the knee and the location of the wire can hardly be discovered.

Case IV.—Simple fracture of the patella, probably from muscular action; wired under irrigation with 1 to 4,000 bichloride solution; interposed fibrous tissue; tubes removed on fourth day; passive motion on sixteenth day; primary union of wound; bony union of the patella with nearly perfect function in the joint at the end of six months.

F. L——, aged forty-two, plumber, was admitted into Bellevue Hospital, August 4, 1885. The patient has always been healthy. In descending a flight of steps he fell backward upon his nates, as he fell he suddenly drew up his legs and felt a sharp pain in the left knee.

Examination shows considerable swelling and ecchymosis about the joint. There is also ecchymosis over a broad area posteriorly, extending down the leg from the bend of the knee nearly to the ankle. A transverse fracture of the patella is detected. The limb was placed upon a posterior splint and the knee bandaged with a gauze bandage wet with lead and opium wash.

August 5th.—The patella is found broken transversely at its middle; the fragments are separated three-fourths of an inch and there seems to be considerable effusion between them. The limb is kept upon the posterior splint and the joint is bandaged with gauze, which is kept constantly moist with the lead and opium wash. He complains of pain in the metatarso-phalangeal joint of the left great toe; the joint is red and swollen.

August 10th.—All redness and pain have subsided from the toe-joint.

Operation, August 10th.—The wiring of the fragments was conducted in the usual manner, under continuous irrigation with a warm solution of bichloride, 1 to 4,000. When the joint was opened the shreds of torn fibrous tissues, in which some blood-clot was mingled, were found wrapped over the fractured surface of the upper fragment, completely concealing it. This torn tissue was about two inches in length and shredded as if it had been combed; a portion of it, being lifeless, was cut away. The membrane described by Van der Meulin was seen. The fractured surfaces were lightly scraped with a sharp spoon, and then brought together with a single wire. In addition to the usual drainage-tubes into the joint on its outer aspect, another tube was passed through a gap in the tissues on the inner side of the patella. The limb was dressed in the usual manner.

August 14th.—The dressings were removed. They were stained with a sero-sanguinolent discharge. There are no signs of inflammation. Both drainage-tubes were taken away. They contained only a little bloody serum. The limb was re-dressed in the same manner as at first.

August 24th.—The union along edges of the wound is complete except where the drainage-tubes emerged. A slight amount of motion was made in the knee-joint. The limb was re-dressed.

August 26th.—The splint and dressings were removed and the patient flexed the leg to an angle of ten degrees. It was directed that the joint should be moved every alternate day.

September 2d.—The lateral mobility of the patella is nearly as great as normal.

October 27th.—The patient was discharged from the hospital. He could walk without the aid of a cane, and could flex the leg at an angle of forty-five degrees.

February 1, 1886.—There is no notching at the side of the wired patella, which, while not increased in length, is one-fourth of an inch broader than the opposite one. It cannot be moved quite so freely laterally as the uninjured one. He can bend the injured limb past a right angle, but not quite to full flexion. He can go up and down stairs as well as ever. So far as relates to the knee he could work as well as ever at his former occupation, that of a stevedore. The wire cannot be felt, nor has it occasioned any inconvenience.

Case V.—Simple fracture of the patella, probably from direct violence; wired sixteen hours afterward, under irrigation with 1 to 4,000 bichloride solution; fibrous tissue infolded; drainage-tubes removed on the second day; primary union of the wound; bony union of the patella; ultimate perfect recovery of function in the joint.

T. N——, aged forty, was admitted into St. Vincent's Hospital, August 22, 1885. The patient has always been healthy, but a very intemperate drinker. At about eight o'clock on the evening of admission, while intoxicated, he was thrown down and sustained an injury to the right knee. On examination there is found a transverse simple fracture of the right patella through its middle, with about three-fourths of an inch separation of the fragments. There is no swelling of the joint nor evidence of contusion, and the fragments of the patella can easily be brought together and crepitus obtained. A posterior splint was firmly bandaged to the limb and an ice-cap applied to the knee. The patient's restlessness was quieted by morphia and bromide of potassium.

Operation, August 23d.—The immediate effects of the alcohol have passed off, but the patient's hands and tongue are quite tremulous. At 12 M., sixteen hours after the receipt of the injury, the joint was opened under constant irrigation with the 1 to 4,000 solution of the bichloride of mercury. The deeper structures were torn transversely from side to side of the joint. There were no clots in the joint. The fibrous structure over the patella overhung the broken bony surface of the upper fragment. This was lifted and the few small clots of blood on the fractured surfaces dislodged by touches of the sharp spoon and the irrigating stream. The line of fracture was irregular from side to side, the upper fragment being indented at its middle. The lower fragment was also fractured near its outer side, the line of fracture, however, extending vertically only part way through the bone and then horizontally. The small piece of bone thus broken off was firmly adherent. The two principal fragments were brought together with a single wire, each one, on account of its mobility, being drilled from the bony cartilaginous junction on the fractured surface from within the joint in a direction outward. In addition to the usual provision for the drainage of the joint at its outer aspect, another tube was inserted through a counter-opening to drain a subcutaneous pocket over the anterior surface of the knee. The ends of the drainage-tubes were left long, and were surrounded by the deeper dressings. Pieces of catgut tied to the ends of the tubes passed obliquely through the dressings.

October 25th.—The tube on the inner side of the joint was withdrawn by means of the attached string. In attempting the removal of the other tube its end caught in the dressings and the traction string gave way. It was thought probable that the tube had been withdrawn from the joint though lodged in the dressings.

September 2d.—The dressings were removed; the deep portions were stained by a sero-sanguinolent discharge. One quarter of an inch of the remaining drainage-tube was still lodged in the wound. The transverse incision had healed by first intention, the continuous catgut suture used to bring the edges of the wound together was not yet absorbed. There was a granulating surface at the place of exit of the outer drainage-tube. A light antiseptic dressing was applied about the joint and the limb bandaged in the wire box that served as a posterior splint. The temperature after the fourth day was normal.

October 9th.—The patient had motion to thirty degrees.

January 29, 1886.—The patient went to work at a foot-lathe the latter part of December. The knee swelled and he was obliged to stop working. The wired patella is considerably hypertrophied, being three-eighths of an inch wider and somewhat longer than the uninjured one. The wire cannot be felt and gives no trouble. The sides of the patella are not notched. Its lateral motion is some-

what limited. He has pain in the knee when the weather changes. He can flex the leg past a right angle and is gaining in range of motion every day.

January 16, 1887.—The wired patella is markedly hypertrophied. The thigh is slightly atrophied. There is normal power of extension and flexion. The knee never inconveniences him.

Case VI.—Simple fracture of the patella, probably from muscular action; wired on the fifteenth day under irrigation with 1 to 4,000 solution of bichloride of mercury; infolded tissue upon both fragments; drainage-tube removed on the second day; passive motion begun at the end of two weeks; bony union of the fragments; ultimate recovery of complete function in the joint.

H. L——, aged twenty-six, was admitted into Mount Sinai Hospital, August 4, 1885. The patient, though obese, has always been healthy. The night before admission he slipped on the floor, and just as his left knee struck he felt something snap in the joint. He was unable to get upon his feet and the joint began to swell immediately. On admission, the left knee-joint was found much swollen and tender. There was simple transverse fracture of the patella at its middle, with three-fourths of an inch separation of the fragments, which could be forced together and crepitus obtained. A broad piece of adhesive plaster was applied to the anterior surface of the thigh and another piece to the same region of the leg. The patella fragments were then brought together by a lace carried through the ends of plaster. The limb was elevated upon a pillow and an ice-cap applied to the knee.

August 6th.—There is much ecchymosis on the inner side of the joint. A posterior splint was applied to the limb.

August 10th.—The patient feels pretty comfortable.

August 15th.—Preparatory to wiring the ice-bags and dressings were removed and the limb elevated to get rid of the œdema. There is an abrasion of the skin on the inner side of the joint.

Operation, August 18th.—Fifteen days after the receipt of the injury the joint was opened under constant irrigation with a 1 to 4,000 warm solution of the bichloride of mercury. There was a slight amount of clot in the joint. The torn fibrous structures upon the anterior aspect of the patella were infolded and adherent to the fractured bony surfaces of both fragments. The membrane described by Van der Menlin was observed. The infolded tissue was peeled from the bone and the fragments brought together in the usual manner with a single wire. The operation was completed in forty-eight minutes, fourteen minutes being spent in sewing the wound.

August 19th.—The patient has had some pain in the knee but not enough to prevent his sleeping.

August 20th.—The dressings were taken off under irrigation. There has been hardly any discharge. The edges of the transverse incision have united by first intention. The drainage-tube was removed.

August 31st.—The transverse incision is firmly united. The wound at the place of exit of the drainage-tube is cicatrizing. The posterior splint was applied.

September 4th.—The small ulcer at drainage site has nearly healed. The posterior splint is left off and passive motion of the joint is begun.

The highest temperature by rectum after the operation was 101° F. After the fourth day it was normal.

December 21st.—The patient can flex the leg past a right angle. He has nearly the same range of motion as upon the healthy opposite side.

March 18, 1886.—Since January the patient has been at the same work as before he was injured. The function of the injured limb is as perfect as that of its opposite healthy fellow. The patella is of about the same size and has the same lateral mobility as the unbroken one. The wire cannot be felt, nor has it caused any discomfort.

Remarks.—This case, in comparison with the preceding one, suggests that the nearness of time of operation to the date of injury has no perceptible influence over the ultimate recovery of motion in the joint. The early and persistent efforts at motion on the part of the patient are the major factor.

Nearly one-third of the whole time of the operation was consumed in sewing the soft parts. The length of the operative procedure is in proportion to the thoroughness with which the integrity of the joint is restored.

Just before the operation, two weeks after the receipt of injury, the fragments were freely movable independently, and at the operation the only trace of ligamentous union was the delicate membrane extending between their deep edges.

Case VII.—Simple fracture of the patella, with much effusion in the joint; joint tapped; fragments wired on the fourteenth day, under irrigation with a 1 to 4,000 bichloride solution; no infolded fibrous tissue; bony union without suppuration; recovery at the end of six months, under adverse circumstances, of perfect power of extension and flexion to forty-five degrees.

M. B——, aged sixty-four, pedler, was admitted to Mount Sinai Hospital, July 2, 1886. The patient has always been a healthy man. Two months ago he fell, striking on the left knee, which became swollen and discolored, and confined him to bed for two weeks. It was treated with cold applications and a compressing bandage. He was examined at a dispensary, and was told that no bones were broken. After this accident his knee was quite stiff. Three days ago, while walking on the street, the patient fell and struck his injured knee, which soon became very much swollen and discolored.

On admission the left knee is tensely swollen and ecchymosed. In some places the skin is vesicated. The swelling and ecchymosis correspond to the situation of the synovial sac. The left knee is two inches greater in circumference than the right. The leg was placed upon a posterior splint, and lead and opium wash was applied to the joint.

July 4th.—The knee-joint is still very much enlarged. Under elastic compression the joint was antiseptically tapped with a trochar and cannula, and eleven drachms of dark, liquid blood were withdrawn. As the joint was not much reduced in size, it was concluded that it contained a large amount of clot.

Operation, July 13, 1886, under continuous irrigation with a 1 to 4,000 bichloride of mercury solution. Upon making the usual transverse incision into the joint, a considerable quantity of liquid blood and a few granules of bone escaped. A large amount of clot was found between the fragments. There was no infolded fibrous structure upon the fractured surface of either fragment. The surfaces of bone were lightly scraped free of gran-

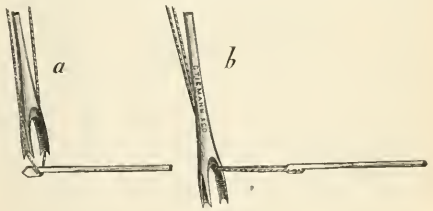

Fig. 2.

ulations. The transverse fracture had taken a very oblique direction through the thickness of the bone, so that the broken bony surface of the upper fragment widely overhung its cartilaginous margin. In drilling the upper fragment, deceived by the obliquity of the fracture, the point of the drill was made to emerge through cancellous tissue some distance above the bony cartilaginous junction. However, the guide of silk was temporarily drawn into position. As the lower fragment could not be readily exposed, the drill was passed directly through the skin and soft parts to the bone, its point emerging through the under surface of the cartilage. It was clear that when

the fragments would be wired together the upper fragment would be on a lower plane than the lower one, and that the apposition would be quite imperfect. The misdirection of the hole through the upper fragment was corrected by drilling again, directing the drill even a little upward to insure the exit of the point through the under surface of the cartilage. By means of a properly constructed instrument (see Fig. 2) the silk loop was cast over the notch in the end of the drill, which could be only reached by the tip of the finger. One end of the wire was drawn through the upper fragment, and the other through the lower fragment and the skin. The drill was again introduced alongside of the wire emerging through the skin, and passed superficially to the upper surface of the fragment. By means of a loop of silk drawn along the track of the drill, the wire was made to re-enter its opening of emergence through the skin and was pulled into place. (See Fig. 3.) A drainage-tube was passed

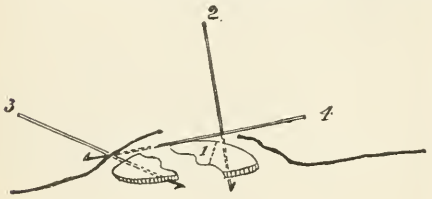

FIG. 3

through the most dependent portion of the synovial pouch on its outer aspect. After lightly scraping their fractured surfaces the fragments were brought into exact apposition. The wire was cut short to the twist, and its stump was turned down. The capsular fibrous structures were sewn with medium-sized continuous catgut suture. The superficial wound was drained by three short pieces of small-sized drainage-tube. The skin incision was united by interrupted sutures of coarse silk, between which was run a continuous delicate catgut suture. During the whole operation no vessel required ligation. The wound was dressed with antiseptic gauze, and confined upon a posterior splint in the usual way.

July 17th.—The patient has been perfectly comfortable since the operation. The wound is dressed for the first time, under irrigation with a 1 to 1,000 bichloride of mercury solution. There is not much discharge upon the dressings. There are no signs of inflammation. The drainage-tubes were removed. The knee was re-dressed with gauze, etc., in the same manner as after the operation.

July 23d.—The wound was dressed, no irrigation was required. It was entirely healed, except at the places of exit of the drainage-tubes, which are marked by spots of granulations. The silk sutures are removed. A light antiseptic dressing and the posterior splint were re-applied.

July 28th.—The wound is entirely healed. The splint is left off during the day, and passive motion of the joint is cautiously begun. The highest temperature was 101.2° F. on the night of the operation; on the second day thereafter it fell to normal, where it remained.

August 8th.—The patient is allowed out of bed, wearing only a short posterior splint.

August 15th.—There is swelling of the limb, and infiltration of the soft parts about the joint. The patient is about the ward on crutches. The limb is douched daily with hot and cold water, alternately applied.

August 30th.—The infiltration over the knee is passing away. The patient walks quite well, using only a cane.

January 17, 1887.—The patient for some time has been at work peddling. Since he left the hospital he has not treated the joint intelligently. He has wrapped a cloth around the knee, tied it with a string above and below the joint. The string above the joint deeply creased the skin and caused some œdema. The excursion of the patella, laterally, is limited. There is firm bony union. He can extend the limb perfectly horizontally, and flex it to an angle of forty-five degrees. He walks without a cane. He was directed to remove all constricting dressings, to douche the limb daily with cold water, and by proper movements to increase the power of flexion.

Remark.—This case illustrates the capability of this method of wiring to overcome unusual difficulties. Without loosening the patella by further dissection, it would have been impossible by other procedure to have sutured the fragments with the nicety and firmness with which it was easily accomplished. It is evident that by this same method a suture of other material could have been applied with facility.

CASE VIII.—Simple fracture of the patella, probably from direct violence; operation under irrigation with 1 to 4,000 bichloride solution; lower fragment loose in the joint and removed; no infolded tissue upon the upper fragment; suture of the ligamentum patella to the upper fragment with silk-worm gut. Union without suppuration; at the end of four months perfect extension with flexion to nearly a right angle and improving. Ultimate recovery of nearly perfect flexion.

W. S——, forty-three years of age, cigar-maker, was admitted into Bellevue Hospital, September 6, 1886. This patient was kindly referred to me for treatment by my colleague, Dr. J. W. S. Gouley. He has always been in good health. One hour and a half before admission into the hospital, while in a saloon, he was pushed from behind, and falling struck his flexed left knee upon the floor. He could not rise or use his leg, and thought it was broken. He crawled to the sidewalk, hailed a policeman, and was put into an ambulance. He could not bear his weight upon the left leg or use it at all.

The whole left knee is much swollen and ecchymosed. There is a transverse groove at the junction of the upper two-thirds and the lower third of the patella, with one-half an inch separation between the fragments. They can be brought together and what appears to be bony crepitus is obtained. An ice-cap is applied to the knee.

September 10th.—Poultices are applied to the knee.

September 16th.—The swelling of the knee has subsided considerably. The lower fragment is thought to be fractured into two pieces.

Operation was performed September 18th, under continuous irrigation with a 1 to 4,000 bichloride of mercury solution. A considerable amount of clot and liquid blood was found in the joint. The cartilaginous face of the lower fragment presented toward the surface. The fragment was entirely loose in the joint and was picked out. This piece of bone was the whole of the lower fragment, with the exception of a small piece about the size of a pea in the outer side of the joint remaining attached to the ligamentum patellæ, and a very thin crust from the anterior surface which adhered to and roughened the ligament. The fragment had been torn off apparently by a movement of rotation. Even the small attached bit of bone showed the force of the twist. Its presenting cartilaginous surface was cut off with scissors. There was no infolding of fibrous tissue upon the upper fragment. The bone granulations covering its fractured surface were lightly scraped off. The upper fragment was bored from without inward toward the cavity of the joint. The bone was noticeably hard. The ligamentum patellæ was drilled from without inward toward the joint cavity. A drainage-tube was passed through the place of election. Two strands of disinfected silk-worm gut were drawn into position by means of loops of silk, and the incrusted end of the ligamentum patella, feeling as if sanded, was fitted against the fractured bony surface of the upper fragment and secured. The torn synovial sac and fibrous capsule were then separately sutured with a continuous catgut suture. The cut edges of the skin were brought together with interrupted sutures of disinfected silk.

The usual antiseptic dressings of bichloride gauze and combined dressings were applied. The limb was immo-

bilized by tin strips and then placed in a wire-gauze fracture box.

September 22d.—Knee dressed. There is primary union throughout the whole extent of the wound. There is no swelling. The drainage tube is removed.

September 28th.—The knee was dressed. The silk sutures were removed.

The temperature fell to normal on the sixth day after the operation.

October 10th.—No swelling in the knee. There are still a few granulations at the drainage-tube counter-opening. There has been quite a growth of bone, especially on the outer side of the patella, which now has an oblong shape.

The splint was removed and active and passive motion begun, the patient remaining in bed.

November 21st.—The patient left the hospital with motion of fifteen degrees.

January 15, 1887.—The growth of the sutured patella on its outer side is marked, but does not interfere with motion in the joint. The knot of the suture can be felt beneath the skin. There is power of perfect extension horizontally, and flexion to nearly a right angle. The range of motion is daily improving. The thigh on the injured side is somewhat smaller than its opposite.

February 10, 1890.—It is now more than three years since the operation. The left patella is hypertrophied, being somewhat longer and wider than the right one. Its shape is oblong, being especially lengthened on its outer side. The scar of the operation is perfectly movable. The silk-worm gut sutures can still be felt. There is perfect power of extension, and power of flexion past a right angle. The full extension seems to be limited by the increased length of the patella. The patient goes up and down stairs as well as ever; he can even kneel upon the floor and the joint never shows weakness.

Remarks.—Although this patient was examined after the accident by expert and experienced surgeons the interior condition of the joint was not accurately diagnosed, nor could it be known exactly without opening the joint. Had this patient been treated by non-operative procedure or by any operative procedure that did not recognize and correct the injury, the patient would have been condemned to permanent crippling of the limb, and all the limitations which that implies. Whereas, by the open method of suture he was given the almost perfect joint above described. The benefit of the operation was so great that it is safe to say that were the bone now refractured and treated by any method the result, even after this accident, would be better than if he had been treated in the first instance by any other method of operation, though no refracture ever took place.

The case further shows the scope of the method of suturing. Soft sutures were accurately and easily passed through unlike structures and the hand was able to recognize the unusual hardness of the bone. I have observed that in fractures by direct violence the bone has been harder than in those broken by muscular action.

Case IX.—Simple fracture of the patella from direct violence; wired on the ninth day under irrigation with 1 to 2,000 bichloride of mercury solution; laceration not through the whole thickness of the capsular structures; fibrous tissue infolded upon the fragments; drainage-tube removed on the fourth day; primary union; passive motion on the sixteenth day.

Refractured at the end of two months; wired again in twenty-four hours under irrigation with 1 to 2,500 bichloride solution; slight infolding of fibrous tissue upon the fragments; adhesions in the synovial sac; drainage-tubes removed on the fourth day; primary union; passive motion at the end of two weeks; bony union of the patella, with ultimate perfect recovery of function of the joint.

W. B——, eleven years of age, a school-boy, was admitted into Bellevue Hospital, January 1, 1885. The patient has always been healthy. While playing on top of a coal-bin he was startled by one of his playmates and fell off, striking his right knee on the sharp edge of the curb-stone. Without knowing that he had broken a bone he attempted to walk after the accident but fell down. Soon afterward he was admitted into the hospital.

Examination shows that the right knee is considerably swollen and tender and that the patella is broken transversely at its middle, with one inch separation of the fragments, which can be brought together without difficulty and give crepitus.

The limb was bandaged to a posterior splint and an ice-cap was applied to the knee.

January 5th.—The ice-cap was removed and the knee was strapped with strips of lint wet with lead and opium wash.

January 10th.—The knee is less swollen.

The operation of wiring was performed under continuous irrigation with a warm solution of 1 to 2,000 bichloride of mercury. The transverse incision through the skin revealed the subcutaneous aponeurotic expansion intact, giving at first the impression that the capsular structures were not lacerated. The incision being somewhat extended toward the outer aspect of the joint showed a perforation of the subcutaneous tissue by the sharp outer angle of the upper patella fragment, and upon deepening the cut the deeper structures were found to be extensively lacerated. The upper half of the bony surface of both fragments was covered by the infolded fibrous tissue, thus preventing the bony contact necessary for osseous union. This tissue was elevated with a sharp spoon and carefully preserved to cover the line of approximation of the fragments. A drainage-tube was inserted at the place of election.

The operation lasted one hour and a quarter; the dressing occupied fifteen minutes.

January 14th.—The dressings were removed under irrigation. There was about two drachms of sero-sanguinolent discharge upon the dressings. There is, apparently, primary union along the incision in the skin. There is a superficial excoriation of the skin beneath the protective, caused by the bichloride, elsewhere it is healthy. The drainage tube was removed and the limb re-dressed.

January 16th.—All pain about the joint has disappeared.

January 24th.—The union of the wound is complete, with the slight exception of a small spot of granulations at the inner end of the transverse incision. The joint is normal in size and there are no evidences of inflammation. The fragments are in good position and apparently united. The slight excoriation was dressed and the leg placed upon a posterior splint.

The highest temperature was 101.5° F. the evening after operation and sank to normal on the fifth day.

January 26th.—The splint was removed and passive motion exerted, moving the leg through ten degrees. The splint was reapplied.

January 27th.—The leg was moved through about twenty degrees.

January 28th.—All dressings have been dispensed with and passive motion is practised daily with great care and with a progressive increase in the range of movement.

January 29th.—The leg can be moved through twenty-five degrees.

February 3d.—It moves through forty-five degrees.

February 10th.—He has motion through an arc of sixty degrees.

February 20th.—The leg can be bent to nearly a right angle with the thigh.

February 28th.—The leg can be moved freely and without much pain to a right angle with the thigh.

Refracture, March 7th.—The patient, who had acquired motion of the leg to a little past a right angle with the thigh, was pushing a chair before him with his hands, and at the same time practising flexion of both legs, when the chair suddenly slipped away and he fell upon his knees, forcibly bending his legs under him. He realized at once that he had refractured his patella, on account of

the marked depression in the line of the transverse incision. He was immediately put to bed.

Upon examination the joint was found much swollen. The separation of the patella fragments apparently along the line of former fracture was made out. The fragments, which were about one-half an inch apart, could be brought together with crepitus. A posterior splint was applied to the limb and an ice-cap to the joint. After a few hours the ice-cap was removed and the knee was well strapped with lead and opium wash.

Second operation, March 8th, at 3 P.M., twenty-four hours after refracture, under irrigation with a warm solution of 1 to 2,500 of bichloride of mercury.—The knee was now of nearly its normal size. The fragments were felt to be about half an inch apart, and a protruding end of the wire could be felt just beneath the skin on the outer aspect of the joint. The incision to open the joint was begun a short distance below the cicatrix on the inner side of the joint, and, extending parallel to it, crossed it at the middle, where it was carried above and then parallel with it to the outer side of the joint. The periarticular tissues were found torn, although not so widely as in the first accident. About two ounces of blood-clots were washed out from between the fragments and from beneath the undermined cutaneous tissues over the anterior surface of the joint. It was now clear that the compressing bandage had diffused the blood in pouches torn beneath the skin. The wire had untwisted and been pulled through the drill-hole in the upper fragment. Its end was lying between the fragments and directed to the outer aspect of the joint. It was clean and bright, and so firm in the lower fragment, where its position had apparently not been disturbed, that heavy pliers were necessary to withdraw it. Both broken surfaces were somewhat overlapped by infolded fibrous tissue, but not nearly so far as in the first fracture. The extent of the synovial cavity was considerably lessened, both by a general contraction and by adhesions which had in great measure obliterated the synovial pouch, extending upward beneath and beyond the upper fragment. The surfaces of the fragments presented no traces of a ligamentous union, but were rough and bony. The small adherent blood-clots were lightly scraped away and the infolded fibrous tissue lifted. The fragments were brought together by a single wire. The cavity formed by the undermining of the skin upon the anterior aspect of the joint was drained by four tubes passed through the counter-openings; a tube was inserted into the joint as usual. The capsular structures were less distinct than in the first operation, and only a few stitches were used to close the rent in them. The operation lasted one hour. In dressing the wound, the protective silk was omitted. There was very little pain after the operation.

March 12th.—The dressings were removed under irrigation. There was a small amount of sero-sanguinolent discharge surrounding the ends of the drainage-tubes. The line of the skin incision had apparently healed by first intention. The tubes were removed and the limb was redressed.

March 21st.—The line of incision has all healed, except at the point of convergence of the cicatrices, where a knot in a catgut suture had pressed, and caused a small and very superficial slough. The places of emergence of the drainage tubes presented granulating spots. The limb was re-dressed and placed in the wire splint. The temperature rose to 100.6° F. the night after the operation, but the next day it was normal and never rose again.

March 23d.—There is a granulating spot the size of a ten-cent piece at the place of emergence of the lower and inner drainage-tube and a smaller one at the site of the slough above mentioned.

Passive motion was begun and movement of the leg to angle of twenty degrees was easily obtained without the use of any considerable degree of force. Passive motion is ordered to be practised daily.

March 30th.—There is motion to an angle of forty-five degrees. Passive motion renders tense the tendon of the quadriceps extensor.

May 1st.—The leg moves through an arc of fifty degrees.

January 25, 1886.—The wired patella is somewhat hypertrophied and indistinctly notched at its sides in the line of fracture. The wire can be obscurely felt through the skin, but has never produced any irritation nor discomfort. The patella can be moved as freely laterally as the opposite one. The range of flexion and extension of the injured limb and the function of the joint are in every respect as perfect as in its uninjured fellow.

November 1, 1886.—The patient was exhibited to the class at the Bellevue Hospital. His knee-joint remained in perfect condition.

February 10, 1890.—The joint remains in perfect condition and has never exhibited any weakness. He was this night exhibited at a meeting of the Surgical Section of the Academy of Medicine.

Remarks.—The conditions present at the first operation tend to confirm the explanation of MacEwen of the mechanism of the infolding of the torn fibrous structures.

The sharp spicular anterior edge of the upper fragment had caught in the elastic fibrous tissues and opposed their retraction. The lesser amount of infolded tissues found at the second operation is explained by the fact that the fibrous tissues were less elastic at the time of the re fracture.

This case illustrates the danger attending the use of the permanent wire suture, for had the refracture occurred when the patient was beyond the reach of skilled attendance, his limb and life might have been imperilled.

Had the fragments been sutured in the first instance by soft suture, the patient, after the refracture, would have been in a better attitude toward any non-operative method of treatment than he would have been had the fragments not been primarily sutured by the open operation.

The case further shows that the adhesions in the joint do not in themselves prevent the ultimate recovery of perfect function.

(To be continued.)

A CASE OF PARALYSIS OF THE SUPERIOR OBLIQUE CURED BY TENOTOMY OF THE SUPERIOR RECTUS OF THE SAME EYE.[1]

By DAVID WEBSTER, M.D.,

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William C. McK——, aged thirty-three, bachelor, clerk, was introduced to me by my friend, Dr. George C. Jeffery, on January 1, 1889. He said his eyes began to give out while working by gaslight in the latter part of 1887. In January, 1888, he selected glasses for himself [$+\frac{1}{60}$] at an optician's, and they gave him some help. In November, 1888, he consulted Dr. Jeffery, who advised him to lay aside his glasses, and he, after that, got along quite as well without them. He complains that his eyes seem to be "out of gear." He frequently becomes nervous and excited, and then his eyes are worse. He holds his head tilted to the left in order to avoid diplopia. In 1877, he had a chancre which was followed by various secondary symptoms: R. V.$=\frac{20}{20}$; Hm. O. 25 D. L. V.$=\frac{20}{20}$; $\frac{4}{5}$ with + O. 75 D.

Ophthalmoscope shows no lesion; physiological excavation of both optic disks, with pulsation of the retinal veins. On looking directly at a candle flame twenty feet distant the patient saw double images. These images were fused by prisms 5 base down and 8° base out over the left eye. The images become farther apart as the patient looks down. The patient was seen again on Jan-

[1] Read before the Ophthalmic Section of the New York Academy of Medicine, May 21, 1890.

uary 4th, and the following glasses were ordered for constant use: Rt. +O. 25 D. S. Lft. +O. 50 D. S. prism 3° base down. He was also put upon iodide of potassium in increasing doses.

January 14th.—The patient says the glasses rest his eyes and prevent "that tired feeling," but in order to see a thing distinctly with them he has to look straight at it. Advised to continue the glasses and the iodide.

February 1st.—Is taking 100 minims of the saturated solution of iodide of potassium three times a day. Gets along well with his glasses and is gaining flesh.

February 16th.—Is getting along about the same. To lessen the dose of iodide potas. by 5 minims every third day.

May 16th.—Stopped the iodide the latter part of April and has taken no medicine since. The paralysis of the left superior oblique remains unchanged, but he gets along very comfortably with his glasses.

October 3d.—The patient says that he has been having "the blues" without any sufficient cause. Latterly his head hasn't felt good, but he has not had what you would call a real headache. His eyes are not as strong as they were, and he often fails to see things correctly at first glance. He complains that he is getting more and more nervous and weak, and is entirely unfitted for business. A prism of 8° base down over left eye is now required to level up the double images. A tenotomy of the left superior rectus was advised.

November 1st.—The patient came to have the tenotomy performed. Immediately before the operation the double images were united by a prism of 9° base down, over the left eye. Immediately after the tenotomy of the left superior rectus, which was done under cocaine, the images were blended by a prism of 1° base down over the left eye. Five minutes later he was tested again, and it was found that a prism of 1° base up over the left eye was necessary to correct the diplopia.

November 2d.—The patient is troubled with diplopia which he fails to correct by tilting his head. A prism of 2° base up over the left eye is now required to cause the images to blend.

November 4th.—The patient complains that "everything is all astir and double." In the street a horse and wagon are double, and the upper one seems as though it were going up a hill. A prism of 6° base up over left eye fuses the images. It was now evident that the over-effect of the tenotomy was increasing and, without further surgical interference, would be permanent, so that "the last state of the patient would be worse than the first." We therefore again cocainized the eye, opened the wound, caught up the free end of the tendon which had retracted too far, and stitched it to the episcleral tissues on the corneal side of its former insertion. This stitch was drawn gradually tighter until the double images on the vertical plane were fused, and until the double images, produced by prisms placed horizontally before either or both eyes, were in a horizontal plane.

November 5th.—Patient has been comfortable since the readjustment of the muscle. No hyperphoria of either eye.

November 8th.—The patient has single binocular vision which is kept up with a red glass over either eye. Removed the stitch.

November 12th.—The patient complains that for the last few days he has had an uncomfortable feeling in his left eye, as though an eyelash were inverted. Inspection shows a slight abrasion of the corneal epithelium.

Orthophoria; sursumduction R. 2°; L. 2°; abduction 4°; adduction 4°.

Homatropine solution was dropped into the eye and a bandage applied.

November 13th.—Abrasion healed. Orthophoria, abduction 8°, adduction 9°.

January 1, 1890.—The patient comes to my office to report himself "as well as he ever was in his life." He needs no glasses, carries his head erect, has no confusion of vision, and has no more of that tired feeling. The prism tests show no insufficiency of his ocular muscles (orthophoria).

There are some interesting points in this case. In the first place, as the paralysis was due to syphilis, we expected to give relief by a thorough course of iodide of potassium. But although doses of nearly three hundred grains a day were taken daily for several weeks, and large doses for several months, no result was obtained so far as his eyes were concerned. In the second place, we may say that the completeness of the relief following the operations upon the superior rectus was very remarkable. There remained no diplopia in any part of the field, and the nervous symptoms, which had almost entirely incapacitated the patient for work, disappeared simultaneously.

Some time in 1888, Dr. H. Knapp reported a case to the Ophthalmic Section of the New York Academy of Medicine similar, in many respects, to that reported above. So far as I know, Dr. Knapp's case, which is not yet in print, is the only case besides my own treated in this way.

In Vol. IV. of the *Archives of Ophthalmology*, the same author publishes three cases in which he performed tenotomy of the superior or inferior recti for paralytic squint, but these were all complicated cases, other muscles being involved. They were:

"1. Tenotomy of the upper and lower recti of the same eye for paresis of the upper rectus.

"2. Tenotomy of the external rectus of both eyes, and the inferior rectus of the left eye, for strabismus and diplopia.

"3. Strabismus, sursumvergeus, improved by tenotomy of the superior rectus with a suture, increasing the effect, through the lower lid; cured by advancement of the inferior rectus."

Clinical Department.

A CASE OF FRACTURED PELVIS AND ITS TREATMENT.

By E. J. KEMPF, M.D.,

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As there is something in knowing just how to use a good thing, I concluded to make a report of a case of fractured pelvis and its treatment.

F. G——, a coal miner, was shovelling coal in a room of a coal mine, when a pillar gave way and the whole roof, weighing several tons, came down on him. The miner was crushed down by the side of a pile of loose coal. His comrades succeeded in getting him out in a few minutes.

I found him on an improvised cot, near a red-hot stove in a shanty. He was conscious, he suffered intense pain in the pelvic region and in the back, his right leg was completely helpless, and he complained of being very cold. My patient was undoubtedly suffering from shock due to some internal injury. We removed his wet clothes by cutting them away, put on dry ones, gave him brandy and a dose of morphine, placed him on a feather-bed, and carried him to his home. I drew his water off with a catheter, and found that his bladder was all right. He had involuntary discharge of thin, bad smelling fæces.

The right leg was helpless, everted, and the least movement caused him great pain. Crepitus could be felt in the hip-joint. There was marked deformity over the right sacro-iliac synchondrosis. There was pain over the pubic articulation.

On the morning after the accident the patient had recovered somewhat from the shock; but as the least movement caused him great pain, and because the right leg gave the patient a great deal of trouble—due, no doubt, to the fracture extending into the acetabulum—I concluded to put the patient into a plaster dressing, which I

did in the following manner, with the assistance of Dr. J. P. Sall.

Two staples were driven into opposite walls of the room, and a common fifty-cent hammock was suspended therefrom. On the hammock I placed rolls of cotton, about four inches thick for the abdomen and pelvis, and two inches for the thighs. On this we placed the patient, who was enabled to steady himself by means of a rope hanging from the ceiling. A slit was cut in the cotton and in the hammock from the knees to the scrotum, and the cotton and the hammock were closely bandaged to the patient's abdomen, pelvis, and thighs. The application of the plaster bandages was made slowly and carefully.

The plaster dressing being completed, the patient was allowed to remain suspended for three hours, until the plaster had thoroughly hardened. The patient felt easier. He had an operation on his bowels, passed his urine into a long-necked bottle, and afterward took some milk and bread.

After the dressing had become firm, the patient was supported by four men, and the hammock was cut off just beyond the edge of the plaster, and the patient was placed on a feather-bed.

In order to be able to examine my patient and to watch for complications, I cut the plaster dressing open over the abdomen, and over each thigh. With a punch I made holes on each side of the slits, so that they corresponded to each other, and then I laced the plaster dressing.

After six weeks I cut off the thigh pieces, and my patient went about on crutches with the hip-corset. He made a good recovery, with some deformity near the right sacro-iliac articulation.

This apparatus is easily applied in the manner described, and one can take his time while at it, and skilled assistance is not required.

It lessens the pain and discomfort. It lessens the danger of abscess, and it admits the inspection of the patient whenever necessary. It can be made use of in fractures of the spine. But in such cases the patient should be placed on his belly when put into the hammock, and the dressing should extend above the shoulders. Slits can be made in the hammock for the arms, and extra cotton should be put under the shoulder-joints, or rather in the axillæ.

The hammock suspension-plaster-dressing is not original with me. It has been used before, but as far as I am aware not in the manner and for the purpose I have described.

ERYTHROMELALGIA.

By C. SEYMOUR, M.D.,

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In 1872 Dr. S. Weir Mitchell, of Philadelphia, described a case of vaso-motor neurosis that had hitherto eluded classification. He labelled the malady, erythromelalgia, a Greek compound signifying redness and pain, these symptoms being the expression of the disease.

Dr. Mitchell subsequently published in the *American Journal of the Medical Sciences* a fuller report of this interesting disorder, embracing five cases under his own observation, together with six cases collected from reports by such authors as Vulpian, Graves, and Paget, and which obviously belong to this peculiar neurosis. The limited number of cases of this disease heretofore recorded leads me to put on record the following :

Miss A. B——, aged forty-five, a teacher for many years, and a very intelligent woman. She has light florid complexion, blue eyes, is well developed and well nourished. Her mother was a nervous invalid, otherwise her family history is good. By constitution she is entirely free from that complex nervous condition which is termed hysteria ; but, seven years ago, her health became impaired from excessive mental application, and she had to relinquish work for two years, wrestling with neurasthenia. During this period insomnia was so persistent she was impelled to use chloral. This habit she continued even after health had been restored and her position as teacher had been resumed. For five years she has slept either with chloral or its recent congener, sulfonal.

In November, 1888, while out walking, she suddenly experienced a sharp, burning pain in the ball of the left foot. This pain rapidly increased, and, as she expressed it, "it was agonizing before I got home." On assuming the recumbent position the pain gradually subsided, and did not return till a week later, when she was attacked on the street as before. From that time, eighteen months ago, she has been incapacitated from walking, or even standing for any length of time. To persist in such an effort is to invite certain and severe distress in the sole of the foot, from which part it will extend so as to involve the dorsum and even the leg. She cannot even allow the foot to hang down without torture, and always sits with it resting upon a chair. With the foot in a horizontal position she is perfectly at ease.

The second peculiar feature mentioned by Weir Mitchell is strikingly marked in this case, namely, the venous congestion of the skin, or flushing. The entire foot, when pain is present, becomes swollen and assumes a dull, mottled redness, like erythema or roseola. Even at these times there is little or no tenderness on pressure.

The third marked symptom of this unique disorder is equally manifest here, viz., the effect of heat and cold upon the foot. Even when the foot is at rest in a horizontal position, warm coverings are intolerable, and the application of cold brings relief. She often bathes the foot in very cold water, even in cold weather, and frequently sleeps with it uncovered. It is far more troublesome in summer than in winter.

The etiology of this disease is obscure, says Dr. Mitchell, but in this case it is manifestly the outcome of a depleted nervous system, aggravated by the long continued use of chloral and sulfonal. That the malady is intractable to medical treatment is demonstrated by the failure of able physicians, both here and in Boston, to relieve it, thus corroborating Dr. Mitchell's unfavorable prognosis of these cases. He says : "I believe that the group of cases described represent an unrecognized type of spinal or cerebro-spinal disorder, and that they may be found in the future to be associated with distinct lesions of definite regions. The mere fact of pain, with vaso-motor disturbances, does not, I think as yet, authorize me to attempt to localize the malady, and I prefer to resist the temptation to speculate in this direction without sufficient grounds."

Proofs of Bacillary Migration from Blood-vessels.—Dr. Latis, of Modena (*Centralblatt für Allgemeine Pathologie und Pathologische Anatomie*), reports experiments tending to show that the walls of the blood-vessels are so modified by the virus of anthrax as to readily lead to diapedesis ; and hence to infer that direct transference of the disease from the maternal to the fœtal organism is possible, without assuming (as has been done) the necessary antecedent condition of placental hemorrhage. He introduced into the peritoneal cavity of guinea-pigs small portions of elder pith thoroughly sterilized by boiling, and then inoculated the animals with anthrax. Subsequent microscopical examination of sections of the pith showed it to contain anthrax bacilli as well as blood-corpuscles. In others he excited keratitis, and detected the bacilli in the corneal epithelium, and occasionally in the plasmatic channels. By varying the time after infection at which the animals were destroyed, he found that, in the mesentery the first effect was a migration of leucocytes, which gradually increased, and which was followed later by an invasion of bacilli and red corpuscles. He also found that when cinnabar was injected into the jugular vein during these experiments, its particles appeared together with the bacilli in the elder pith or mesentery.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE TREATMENT OF EMPYEMA.

THE course of empyema depends so much upon the individual peculiarities of each case, its etiology, the age, strength, and diathesis, that no hard-and-fast rules can ever be laid down for its treatment. But it is a disease which always calls for interference on the part of the physician, and hence it is one upon which much fruitful study can yet be made. The recent discussion of this topic before the German Congress of Internal Medicine, at Vienna, is of especial interest, because it shows the views of many leading European physicians and surgeons regarding treatment. The main point at issue in the debates in question was that of the extent and character of surgical interference; for it is agreed by all that, except in rare cases of small sacculated empyemas, some such interference is indicated.

Professor Immermann, of Basle, who opened the discussion, stated first of all that the pus must be evacuated by operation, and next, that simple aspiration will not answer except in small empyemas, which would become absorbed of themselves. The plan recommended by Bulau, of permanent aspiration by inserting a trochar connected with an elastic tube which leads into an antiseptic solution, was spoken of most favorably. Immermann collected statistics of 49 complete cures out of 57 cases. It is not suitable, however, for cases of inexpansive lung. pyo-pneumo-thorax, or pulmonary fistulæ.

Dr. Schede, of Hamburg, took the surgeon's view of the matter and advised the radical operation, *i.e.*, resection of a rib. Bulau's operation he thought much less safe than resection. The site of incision should be as low as possible. It was best to incise about six centimetres of the ninth or tenth rib.

Dr. Curschmann, of Leipsic, had treated all cases in the past ten years by aspiration-drainage (Bulau's method). Among 73 cases, eighty-nine per cent. were cured and 6 died. Professor Leyden spoke favorably of Bulau's method.

Dr. Ewald, in 1874, had collected statistics in Frerich's clinic of 109 serous and 46 purulent cases, and had then concluded that, of 1,000 cases, 928 do not get well with simple puncture, while 528 are cured by the radical operation. The results of surgery to-day are much better than that. In the present year he had, with Köster, operated with the double incision in 9 cases, with 1 death, from rapid tuberculosis. The operation was done as soon as the nature of the case was proved. The objections arising from old cases would be obviated if early interference were the rule.

Professor von Ziemssen (Munich) had for ten years past treated all empyemata by incision and rib resection, and was perfectly satisfied with this method.

Dr. Mosler, of Greifswalde, brought up the important point of prophylaxis. For the purpose of preventing serous effusions becoming purulent, he took measures against the invasion of streptococci and staphylococci by the mouth, nose, and pharynx. After the operation he washed out with boracic acid, and then injected iodoform and glycerine.

Dr. Runeberg, of Helsingfors, treated all empyemata by rib resection, and did not wash out. He had thus dealt with 63 cases, of which 2 were still under treatment. Two were manifestly tuberculous, 10 were due to pulmonary gangrene, 49 were simple empyemata. Of these latter 46 were completely healed; in 2 fistulæ remained; 1 case died from erysipelas. The average duration of treatment was forty-eight days.

It will be seen that the opinions were mainly divided upon the question of aspiration-drainage or resection. No one seemed to advocate the method very commonly employed in this country, viz., simple incision and drainage. Excellent results are obtained by this plan. All were agreed upon the fact that injections were useless.

THE SULPHUR FUMIGATION HUMBUG.

WE observe that Boards of Health continue to recommend the fumigation of wards and rooms with sulphur, as a means of disinfection. An additional and highly esteemed point in technique is now given, viz., the preliminary moistening of the walls and furniture.

It is surprising that scientific bodies continue to send forth these disinfection pamphlets. There is no evidence at all that sulphur fumes disinfect the rooms in which they are produced, or do any good whatever, except impress the laity with the bituminous resources of sanitary science, and create with them a false sense of security.

We trust that before many years this ancient fetich of alcohol and roll-sulphur, "3 lbs. to a room 10 feet square," will be stored away with the other fallen idols.

A NEW SOURCE FOR PROTECTIVE VACCINES.

SEVERAL recent studies upon the products of the growth or activity of pathogenic bacteria show that among these products are certain poisonous proteid bodies. These substances possess in some cases the same pathogenic property as in the original micro-organism. We have, therefore, as the result of microbic activity, not only ptomaines which are alkaloids, but a class of bodies which react like albumins.

This latter class has been called pathogenic albumoses, or "tox-albumins." Mr. E. H. Hankin, of Cambridge, has obtained such an albumose from anthrax cultures, and Mr. Cartwright Wood has used it successfully as a protective vaccine. Brieger and Fraenkel have studied the diphtheria bacillus of Löffler, and have obtained a toxic albumin from it. They found that it produced no ptomaine.

They obtained similar bodies from cultures of the specific microbes of typhoid, cholera, and tetanus, and of the staphylococcus pyogenes aureus, and in each case the bodies possessed definite pathogenic properties. The details given are not numerous, but it is of interest to note that the proteid isolated from cultures of staphylococcus appeared to give rise to the formation of pus differing from normal pus only in being completely devoid of micro-organisms.

The practical importance of these discoveries lies in the fact that it may be possible, through the use of these new bodies, to obtain protective vaccines for various diseases.

News of the Week.

The Pasteur Institute has now (for the first time since antirabic vaccination has been practised) published complete statistics of the results of the Pasteur treatment for hydrophobia. From January 1, 1886, to December 31, 1889, 7,393 persons bitten by mad dogs have been treated; 53 of these have died—a proportion of 0.67 per cent. The proportion of deaths when the treatment is not adopted is 15.90 per cent.; consequently, among the 7,893 patients of the Pasteur Institute, 1,265 would have died had not the Pasteur method of treating hydrophobia been carried out.

Virchow's Seventieth Birthday.—The friends of Professor Virchow look forward to the celebration of that eminent man's threescore and tenth year on the 13th of next October. Dr. Waldeyer is at the head of the movement to make the event memorable, and may be addressed by any pathologist, anthropologist, or liberal compatriot, now in America, who may feel impelled to contribute to its success. There are probably not fewer than a thousand physicians in this country who have been students of Virchow's at one time or another during the past thirty years.—*New York Medical Journal.*

A Policlinic in Paris.—A Policlinic (with an i) has been recently established in Paris, after the model of the Policlinics of Vienna and Berlin.

Sir Morell Mackenzie is said to have been engaged by an American manager to deliver a series of lectures in this country during the coming fall and winter. He is engaged for at least twenty lectures, at the rate of $500 per lecture.

Alumni Association of the Mount Sinai Hospital.—An association of the alumni of this hospital was organized on May 16th, the objects of the society being both social and scientific. Meetings will be held on the last Tuesday in January, May, and October of each year. At the first meeting the following officers were elected: *President*—Alfred Meyer; *Vice President*—Henry Stark; *Secretary*—H. J. Schiff; *Treasurer*—A. H. Friedenberg. Information concerning the conditions of membership, etc., may be obtained by addressing the Secretary, Dr. Schiff, No. 235 East Seventy-eighth Street.

The Austin District Medical Society will hold its eleventh quarterly meeting in Austin, Tex., on Thursday, June 19th. Dr. F. R. Martin, of Kyle, is President, and Dr. T. J. Bennett, of Austin, Secretary and Treasurer.

Dr. Frank Baker, of Washington, has been appointed curator of comparative anatomy in the National Museum

The Maine Medical Association will hold its thirty-eighth annual meeting at Portland on Tuesday, Wednesday, and Thursday, June 10, 11, and 12, 1890.

Naval Delegates to the International Congress.—Medical Director Albert L. Gihon, U. S. N., in charge of the United States Naval Hospital, New York, and Medical Director David Kindleberger, U. S. N., have been appointed by Secretary Tracy to represent the medical department of the Navy at the International Medical Congress.

A Compliment to Pasteur.—A number of British and American admirers of M. Pasteur, including the Prince and Princess of Wales, have presented him with an album containing their autographs.

A Party of Seven Persons from St. Joseph's, Ill., have come to this city to be treated at the Pasteur Institute. They had been bitten by a mad dog.

Dr. Otto Kopetschy, of Jersey City, died on May 29th, and was cremated at Fresh Pond, L. I.

The Man with the Cracked Ear.—Dr. Wagner, of St. Johann-Sarrebruck, reports the case of a man who for a year and a half suffered from most unpleasant cracking noises in his left ear. These occurred every five or six seconds, and could be distinctly heard by a person standing twenty centimetres away. The patient had no deafness or inflammatory trouble, but examination of the drum showed a split in it, through which air was forced with each act of deglutition.

Dr. Elliott Coues, of Washington, has been expelled from the Theosophic Society, because he showed up the trickery of Madame Blavatsky.

Bequests to Hospitals.—By the will of the late Miss Mary E. Edson, the sum of $10,000 is left to the New York Cancer Hospital; $5,000 to St. Luke's; and $5,000 to the Woman's Hospital.

Crane Surgical Operating-room.—The sum of about five thousand dollars has been given by a daughter of the late Dr. Crane, to build and equip a surgical operating-room at Bellevue Hospital.

A Firm of Opticians, in Philadelphia, have sent out circulars announcing that they have engaged the services of registered physicians, who in addition are ophthalmologists. They are able thus to examine all persons and fit them with glasses if necessary. They state that only ten per cent. of people applying for glasses need to be examined with the aid of mydriatics. The circular has created some excitement, and called out strong expressions of disapproval.

Aniline Dyes as Antiseptics.—In an essay entitled "Aniline Dyes as Antiseptics," Professor Stilling, of Strasburg, claims to have discovered antiseptics strong enough to kill bacteria in a concentration not injurious to the human body, and at the same time diffusive enough to spread wherever on a wounded surface suppurative micro-organisms exist. In the case of a man of seventy, the whole of whose left leg between the ankle and the knee was covered with ulcers which would not heal, Professor Stilling sterilized them all in a few days with the best result.

Army Delegates to the International Congress.—Drs. Charles H. Alden and John S. Billings have been detailed by Secretary Proctor as delegates to the International Medical Congress in Berlin.

Physicians Arrested.—Scarlet fever and diphtheria are very prevalent in the town of Highlands, near Denver, Col., and the citizens are becoming almost panic-stricken. Among other measures taken to improve the health of the community and to prevent further spread of contagion, warrants have been issued for the arrest of a number of physicians who have failed to report cases of diphtheria and scarlet fever occurring in their practice.

Arkansas State Medical Society.—The following officers were elected at the annual meeting of this Society, in Little Rock, on May 18th: *President*—Dr. J. A. Dibrell, Jr.; *1st Vice-President*—Dr. R. N. Ross; *2d Vice-President*—Dr. J. L. Goree; *3d Vice-President*—Dr. J. A. Williams; *4th Vice-President*—Dr. J. B. Payne; *Secretary*—Dr. L. P. Gibson; *Assistant Secretary*—Dr. Joseph H. Leslie; *Treasurer*—Dr. A. L. Breysacher; *Librarian*—Dr. R. B. Christian. Hot Springs was selected as the next place of meeting.

The Medical Society of the County of Kings held a regular meeting in Brooklyn, May 20th, at which Dr. J. Fuhs read a paper on "Spasmodic Urethral Stricture." Drs. L. Bolton Bangs, of New York, and H. W. Rand, of Brooklyn, took part in the discussion. This was followed by a paper entitled "Report of a Case. Was it Hydrophobia?" by Dr. A. Ross Matheson.

The Pathology of an Equatorial Forest.—Mr. Stanley waxes into pathologic eloquence in his description of the immense forest through which his party travelled for weeks. "I saw that some trees were many centuries old; some in the prime of life, with every fibre healthy; some glorious in youth and strength; some goitrous, warty, ulcerous, stunted, and unwholesome; some slaves of slaves strangled by rigid clutch of a pythonous parasite, the parasite in its turn bound firm with exceeding tension by a snaky creeper, and that also covered with lichen and moss; some with great sores exuding globules and pastils of gummy matter, the ants feeding on them like flies on pus; some old, ancient, palsied by a lightning-stroke—life, death, and decay all around as with us."

The Fifth District Branch of the State Medical Association held its sixth annual meeting in Brooklyn, May 27th. Dr. John Shrady presented a tribute to the late Dr. I. E. Taylor, and Dr. C. A. Leale read a memoir of Dr. C. S. Wood. Biographical sketches of Drs. L. H. Sayre, W. B. Eager, G. V. Skiff, G. L. Sutton, and Edwin Webb were read by title. A paper entitled "Observations on Rheumatism, especially as involving the Tonsils," was read by Dr. William Henry Thayer. Dr. H. Ernest Schmid, presented "Some Personal Observations upon the History and Claims of Hypnotism and its Employment in certain Diseased Conditions." Dr. George Tucker Harrison read a paper on "Ectopic Gestation, its Diagnosis and Therapeutics," and Dr. J. W. Gleitsmann, a paper on the "Surgical Treatment of Cough in Diseases of the Upper Air-passages." Dr. T. H. Manley showed several patients upon whom he had operated for cure of hernia. The Executive Committee for the ensuing year was then chosen and the Society adjourned to meet in Kingston, July 22, 1890.

A State Medical Journal.—At the recent annual meeting of the Arkansas State Medical Society, in Little Rock, a resolution was adopted to establish a medical journal, to be conducted by a committee of the Society on the same plan as the organ of the American Medical Association.

Another Remedy for Sea-sickness is put forward by Mr. Charles W. Hamilton, Surgeon R. N. (*British Medical Journal*). It is the seeds of the kola nut, of which half a drachm to a drachm are to be chewed slowly.

The Congress for Internal Medicine.—A paper which attracted much attention was one by Dr. Romberg, of Leipsic, on "The Innervation of the Heart." In connection with Dr. His, studies were made upon the embryology of the cardiac nerves (*The Lancet*). The first appearance of cardiac nerves could be detected in the fourth week, when ganglia, detached from the sympathetic chain, migrated into the heart. In the second and third month the deep and superficial aortic plexuses were formed, while the ventricles remained without any ganglia. Therefore the cardiac ganglia must be regarded as offshoots of the sympathetic ganglia, and as the latter belong to the system of the dorsal roots of the spinal cord, the cardiac ganglia are not motor but sensory nerves, and they cannot represent an automatic cardiac centre, as has previously been assumed. This view, based on embryological investigations, is corroborated by well-known physiological observations—for example, by the fact that the heart of the embryo beats rhythmically long before it possesses nerves or ganglia. The experiments made by Woolridge in this direction were also mentioned by the lecturer. Dr. Romberg believes that the heart muscle is the automatic motor force of the circulation of the blood without being stimulated for this purpose by the nervous elements. According to this view, the pathological study of the cardiac muscle becomes still more important. In pathological changes as well as in experimental toxicology the state of the heart *muscle* must be taken into consideration. To the cardiac ganglia the lecturer ascribed a reflex influence by which the vagus and accelerator nerves are brought into action. Professor Senator read a paper on "Chronic Bright's Disease," in which he dwelt chiefly upon its therapeutics (*British Medical Journal*). As regards medicines, stimulants were to be avoided, and astringents, which theoretically should diminish albuminuria, had not the desired effect. Experiments with benzoic acid, arsenic, ichthyol, and other remedies had also failed; the same might be said of iron preparations, which had been given for the anæmia. Parenchymatous nephritis might come to a standstill at any stage, and disappear, leaving more or less organic change. Professor Senator had seen recovery take place even after the disease had lasted two years, and Johnson even after three years. As regards diet, albuminoid substances should be avoided, and food ought to consist of fat and carbon hydrates. This should be continued for several weeks, or even months; the patient should be well nourished, but the food should be such that the kidneys were freed of albumin as much as possible. According to Voigt, 80 grammes of albumin, 30 grammes of fat, and 300 grammes of carbon hydrates had to be conveyed to the organism to keep up the equilibrium; the proportion of

the albuminoids to that of the carbo-hydrates ought to be one to four. But less than a half of the mentioned quantity of albumin would suffice; 50 grammes of albumin—equivalent to about 2 litres of cow's milk, or to from 8 to 10 eggs, or to 250 grammes of meat—was the lowest quantity required by the organism; this need not be exceeded if food free from nitrogen was taken in sufficient quantity. Many who were against the limitation of albuminoid food emphasized the necessity of giving strong food, which should ameliorate the condition of the blood. This gain of strength, however, said Professor Senator, could be obtained in another way, for instance, by the introduction of fat. The majority of practitioners were in favor of milk diet, and in most cases about two litres of milk were given daily. Professor Senator was no partisan of the milk cure, but he never entirely abandoned the use of milk, as it contained no irritating substances, and it had also a diuretic effect owing to the water it contained. Disturbances of digestion seldom formed a contra-indication; on the contrary, they were frequently improved by the treatment. In many cases buttermilk, and also koumiss or kefi, could be taken. Besides food the activity of the muscles played a great part, as albuminuria was augmented by violent exertion. Moderate motion was therefore recommended. Fresh air was very useful, and the patients did well even to lie in the open air. Baths and *frottement* were of some utility, as there was some relation between the skin and the kidneys. Alkaline muriatic waters, the various teas, the acetate and tartrate of potassium, etc., had a diuretic effect, and this was also true of digitalis, squills, and strophanthus, by augmenting the activity of the heart. Caffein was contra-indicated, as it also affected the nervous system. Acid diuretics were, of course, contra-indicated. A similar treatment was also indicated in the case of atrophic kidney, in which iodide of potassium was useful, as it partly diminished the arterio-sclerosis which was almost invariably present. Strong cigars should not be smoked. Change of climate was useful, and patients ought to go to Egypt, Lapland, India, etc. Professor von Ziemssen said that in parenchymatous nephritis, in the treatment of albuminuria, pharmaceutical preparations should be used only with precaution, otherwise the digestion might be much disturbed. Astringents were useless; iodide of potassium was of some use, and in some cases ergot was successful. During exacerbations of albuminuria, and particularly if there was hæmaturia, the patients should be kept in bed. Bartels affirmed that after several years' confinement to bed, combined with the use of diaphoretics, he had seen well-developed albuminuria perfectly cured. Of diaphoretics, hot air and steam baths were chiefly indicated, especially the former. Pilocarpin was beneficial, particularly in dropsy of long standing. Digitalis, squills, acetate of potassium, and the preparations of antimony were also useful. Caffein and theobromin were useful diuretics, and did not increase blood pressure. Calomel had no effect at all in renal dropsy. With regard to mechanical treatment, Professor von Ziemssen introduced capillary tubes into the asepticized skin, fixed them with salicylate wool, and allowed them to remain *in situ* for twelve hours. In the case of interstitial nephritis, the various causes, such as alcoholic and metallic poisoning, gout, and syphilis, furnished particular indications. In excessive blood pressure, bleeding was useful. In cardiac excitement, ice-bags and morphine were useful; and morphine and ice-pills were beneficial in vomiting. Uræmia was best prevented by digitalis and stimulants (camphor, alcohol). During the attack these drugs could be given by the rectum. In desperate cases arterial bleeding and transfusion could be resorted to. In fibroid liver mineral waters were not good. A sojourn in southern regions was of benefit.

The Medical Department of the University of Pennsylvania held its Commencement May 1st, and graduated a class of 117.

Stanley's Tribute to Surgeon T. H. Parke.—In a recent address by Mr. Stanley he said of Dr. Parke: "Surgeon T. H. Parke, A.M.D., was the latest of our volunteer officers who applied for membership in the expedition. He wrote with his own hand the terms of the agreement, the most comprehensive being 'loyal and devoted service' gratuitously. For some months he pursues his duties without attracting much notice from me; he is so quiet and unobtrusive. Finally, the increasing distresses to which we are subject increases the sick-list alarmingly. I am obliged to attend personally to the matter, which brings me more into contact with the doctor, and gives me better opportunities of observing his manner of work. Splinters pierce the feet through and through, ulcers break out like an epidemic, nostalgia creates a chronic sinking of the vital powers, hunger weakens them, dysentery saps their strength, fevers enfeeble them, and various accidents occur, and each has its victims. Natives wound with arrows, knives, and spears, and before many months I find that nearly all the men pass under the doctor's hands. His patients vary from twenty to fifty in number daily; for once anæmia has firm hold of the constitutions, and the circumstances which caused the sickness remaining unaltered, except from bad to worse, the doctor's task never lessens. For months he has devoted his skill, his time, patiently and uncomplainingly, and always with a charming interest in his cases, until I have at last one hundred and twenty-four, a full one-third of the expedition, unfit for further travel. I call the doctor, and explain to him, and say, "You have done well, I admit; but I wish more yet, if possible. Take these one hundred and twenty-four, and cure them. How you will do it, I do not know; but come this once. Every hour of the day give to them, see that their terrible wounds are dressed, that they have rations regularly, and that their food is cooked, etc. Though they were a terrible sight when I left them in his charge, in one month over eighty are in prime condition and fit for active service, and a few weeks later there are only five incurably sick." He adds that Dr. Parke twice saved Stanley's life. Dr. Parke has been awarded the Honorary Fellowship of the Royal College of Surgeons of Ireland, which has thus shown a prompt appreciation of his work. The Khedive has conferred on him the Third Class Medjidieh. The Royal Geographical Society, at the Royal Albert Hall on Monday, May 5th, presented him, through the Prince of Wales, in the presence of a brilliant audience, with a medal which had been struck in honor of the services rendered to the cause of science and humanity; and the British Medical Association will present him with their gold medal for distinguished merit.

Society Reports.

American Medical Association.

FORTY-FIRST ANNUAL MEETING.

Held at Nashville, Tenn., May 20, 21, 22, and 23, 1890.

(Continued from page 630.)

SURGICAL SECTION.

FIRST DAY, TUESDAY, MAY 20TH.

Concussion of the Spinal Cord and Brain.—DR. WATSON, of Jersey City, in his inaugural address, confined his remarks to the subject of "Concussion of the Spinal Cord and Brain," basing his remarks upon 141 experiments made upon animals. In 135 of the experiments the concussive force was received on the nates, and besides other traumatisms there were 11 cases of rupture of spinal ligaments and 10 of this number occurred at the sacro-vertebral articulation, and the other between the fifth and sixth cervical vertebræ. In 6 cases there were extravasations of blood into pelvic cavity, and in 5 cases ecchymoses in the psoas muscles. In the 4 cases of fracture 2 were in the lumbar region, and he believed that the concussive force exerts the greatest potency when applied to the nates while the body is maintained erect. He viewed the subject from the stand-point of the surgeon and not from that of the alienist. The anatomy of the column, its peculiar construction, the relation of the cord and nerves to the bony surroundings were briefly dwelt upon, the important differences between the encephalon and cord described. He discussed three questions bearing on the etiology of spinal concussion: 1. Are there any cases of this morbid condition arising from concussive force in which the functions of the spinal cord are temporarily disturbed, independently of any discoverable lesions? 2. Are any of the following pathological conditions, viz.: Punctate hemorrhage, hyperæmia, blood in the perivascular spaces of the gray matter, etc., ever produced by concussive force while the bony walls of the spinal column and the ligaments of the same remain in a normal state? 3. How, and by what sort of force, are these morbid conditions most frequently caused? The first question was answered in the negative.

In answer to the second question he stated that out of the 141 experiments, there were 46 in which pathological lesions occurred. In 20 of these post-mortem examination revealed a want of continuity in the spinal column, and from the experiments he believed that pathological changes in the cord may be produced by concussive force while the bones and ligaments remain in a normal state. The paper was discussed by Drs. Carpenter, of St. Louis; Murphy, of St. Paul; King, of Kansas City; Hoadley, of Chicago; Coyn, of Dakota; and Van Quast, of Kansas City.

Nasal Surgery.—DR. MERRIL RICKETTS, of Cincinnati, read a report of several cases of "External Surgery of the Nose," and presented photographs showing cases he had operated upon. The causes of the various deformities were given as syphilitic, malignant, tubercular, traumatic, and congenital. He believed no operations should be done until necrosis has ceased, and in all syphilitic cases proper medicinal treatment should be used. The methods of filling in lost tissue of the soft parts were described briefly, preference being given to taking a flap from the cheek, the arm, and the forehead in the order named. He preferred silk to catgut, and advised further trial of skin-grafting from tissues taken from the lower animals.

Continuous Side Stitch Suture.—DR. C. L. LEWIS, of New York, read a paper on, "The Continuous Side Stitch Suture." The methods already in use by most operators present three objections: 1. They are interrupted and do not hold the surface in close and even apposition. 2. The tension of each stitch is placed upon the width of a thread and in consequence liable to cut through. 3 (and by no means the least). The time required often jeopardizes the life of a patient.

This suture of course is recommended in suturing serous surfaces, especially the intestines.

The advantages of this suture are strength, time, facility of execution.

The doctor reported experiments performed upon ten dogs in which this suture was used. In all the cases but one resections of two-thirds of the calibre of the intestine were done.

The paper was discussed by Dr. Jennings, of Arkansas, and Dr. Shimwell, of Philadelphia.

Resection of the Cæcum for Carcinoma.—DR. N. SENN, of Milwaukee, read a paper entitled "Two Cases of Resection of the Cæcum for Carcinoma, with Remarks on Intestinal Anastomosis in the Ileo-cæcal Region." His conclusions were:

1. Resection of the cæcum for carcinoma can be done with a fair prospect of a permanent cure if the operation is performed before infiltration of the retro-peritoneal and mesenteric glands has occurred.

2. Ileo-colostomy with absorbable perforated approximation plates is the best method in restoring the continuity of the intestinal canal after excision of the cæcum.

3. The best material for approximation plates is decalcified bone preserved in an antiseptic solution.

4. Hygroscopic and indestructible or unabsorbable material should not be used in the preparation of approximation plates or rings, as the former may cause pressure-gangrene, and the latter may prove a source of danger by remaining permanently as a foreign body in the organ in which it has been introduced.

5. Ileo-colostomy without resection of the cæcum is indicated in cases of intestinal obstruction from inoperable carcinoma of the cæcum, irreducible invagination without perforation, or evidences of gangrene, and in cicatricial stenosis in the ileo-cæcal region not amenable to a plastic operation.

6. Scarification of the serous surfaces interposed between the bone plates is the most reliable means of hastening the formation of adhesions, and of shortening the process of definite healing.

7. Resection of the cæcum and ileo-colostomy, with or without enterectomy, should be done through a lateral incision, extending from near the middle of Poupart's ligament to a point half-way between the anterior superior spinous process of the ilium and the umbilicus.

8. Suturing of the serous surfaces, just beyond the margins of the bone plates, renders material aid in maintaining apposition between the serous surfaces which it is intended to unite, and furnishes an additional safeguard against fecal extravasation.

9. Anchoring of the approximated parts in the ileo-cæcal region with a mesenteric-peritoneal suture, should be done in ileo-colostomy, after resection of the cæcum.

SECOND DAY, WEDNESDAY, MAY 21ST.

Gunshot Wounds of the Abdomen.—DR. DAVID BARROW, of Lexington, Ky., read a paper with this title. He reported two cases which, with cases already reported, makes six laparotomies he has done for gunshot wounds of abdomen, with four deaths and two recoveries.

CASE I.—Male, fifteen years of age, shot in abdomen February 8, 1890, at 7 P.M., by a 32-calibre ball. Operation at 11 P.M. Wound was one inch and a half to left of and in line of umbilicus. Symptoms were shock, vomiting, hard and retracted abdomen, pulse rapid and weak, lower extremities flexed, and pain severe. A four-inch incision made in linea alba—first made and then enlarged to six inches, as more room was needed. Six perforations of gut were found, four in small and two in large intestine, which were closed by the Czerny-Lembert suture, using fine intestinal silk, and in one of perforations

of large intestine, on account of the great bruising, stitches were reinforced with omentum. Irrigation copious and thorough—glass drainage-tube used. Incision closed with silk. Duration of operation one hour and a quarter. Recovery.

Case II.—Male, thirteen years of age, wounded by a 32-calibre ball at 4 P.M. Operation at 8 P.M. Wound was two inches to right of and one inch below umbilicus. A probe was passed into the cavity; no shock, nothing indicating serious injury. A four-inch vertical incision, including bullet-wound, made, and it was found ball had passed downward to the right. Five perforations were found, two in ileum, three in cæcum, which were sutured by the Czerny-Lembert stitch with fine silk. Irrigation with boiled distilled water. Duration of operation half an hour; no shock after operation; no drainage. Patient did well for two days, then developed septic peritonitis and died at the end of three days. Post-mortem demonstrated all perforations completely closed; omission of drainage, probably, was the cause of peritonitis and subsequent death.

From an analysis of one hundred and twelve laparotomies for gunshot wounds of the abdomen the following conclusions were drawn:

1. Gunshot wounds of the abdominal cavity should invariably be treated by laparotomy. With the operation the mortality is 66.27 per cent.; without the operation more than ninety per cent. die. 2. It will be safer to always open promptly and cleanse the peritoneal cavity, even should the viscera escape injury. 3. Symptoms are unreliable, and the surgeon should never wait for them if the ball has penetrated the cavity. 4. In every instance mentioned when the operation has been greatly prolonged the patient died. 5. In extreme shock, rather than occupy much time in suturing the perforations, adopt the open peritoneal treatment, and trust to irrigation and drainage. 6. In destructive wounds of the intestines lateral anastomosis promises better results than exsection. 7. By utilizing omentum sometimes extensive wounds can be closed without too much diminishing lumen of intestine. 8. In liver wounds the hemorrhage must be controlled and peritoneal cavity cleaned. 9. The kidney must be removed if wounded and bleeding. 10. The hydrogen-gas test is only of use in demonstrating the closure of all the perforations, and should be used just before closing the abdominal incision. 11. Irrigation should always be copious and thorough. It is the best treatment for shock, diminishes the thirst, and is the best means of guarding against peritonitis. 12. The drainage-tube should rarely be left out.

The Radical Operation for Hernia in Infancy and Early Childhood.—Dr. Thomas H. Manly, of New York, read a paper on this subject. He gave the histories of seven operations for radical cure of hernia performed within the past four months, in and out of hospital, on patients from two weeks of age to seven years; the number was so small and the time so short that it was scarcely possible to state as to the permanency of the cure. However, he said that as all his patients rapidly recovered from the operation in less than half the time required in adults, and as in none could a truss be worn, he felt justified in operating. He said that though the major portion of hernial cases recovered under the truss in childhood, yet they almost invariably returned later. In four of his cases the herniæ were of congenital variety, and the testis with the intestine or omentum were adherent, and no truss of any kind was of any use. He ridiculed the pretensions of those who condemned operations for radical cure of hernia because of relapses, for he said that, exclusive of traumatisms, most all surgical operations were followed by a relapse of the condition for which the original operation was performed. He said no special operation could be advocated for all cases. The surgeon must be guided by the conditions existing and adapt his technique accordingly. Owing to the fact that in the first year of life the infant is constantly in prone position, such as is favorable to thorough solidification of the wound and to the changes of anatomical evolution occurring in early life, he strongly advised doing the operation at the earliest possible period after the protrusion was discovered.

Persistent Priapism.—Dr. W. T. Briggs, of Nashville, showed a patient who had suffered during the past year with constant priapism which no treatment had relieved. No cause was known for the trouble and all the other functions of the body were normal. Sexual intercourse only aggravated the condition, made him irritable, and did not relieve the priapism. The doctor asked for advice from any member of the Section, but all methods suggested had been previously tried.

The Value of Urethroscopy.—Dr. J. B. Dearer, of Philadelphia, read a paper on "The Value of the Leiter Incandescent Lamp Urethroscope in the Diagnosis and Treatment of Chronic Urethral Discharges." He described the instrument, which is made in three pieces, the handle, the lantern, and the urethral cannulæ or tubes. Owing to its simplicity it rarely got out of order, the only part needing replacing usually was the lamp, which soon became blackened, and could be changed by simply removing the handle and loosening the two small screws holding the lamp. Pictures were shown illustrating the lamp, and the different forms of batteries to be used mentioned and preference given to the Grenet or plunge battery.

The use of the instrument was most satisfactory with patient in the recumbent position on a table or couch of considerable height, with the knees bent over the edges and slightly separated. The largest possible tube should be used and great care taken not to induce bleeding, thus obstructing the field of vision.

The normal condition of the urethra as seen through the instrument was then described, and Otis' views endorsed that in most cases of gleet more than one stricture was present. By the use of the instrument the following varieties of chronic urethritis could be made out:

1. Simple chronic urethritis. 2. Follicular urethritis. 3. Ulcerative urethritis. Rarely were two of the above conditions met with in the same case, and without the aid of the urethroscope the exact pathological condition which is keeping up the discharge cannot always be made out.

Four cases were reported and drawings shown of condition of urethra as seen through the instrument, and especial attention called to some causes of failure in curing cases of stricture operated upon by divulsion and which he believed to be an argument in favor of internal urethrotomy, namely tabs or teats of mucous membrane which have been separated at the time of divulsion; and by bougieing, the usual after-treatment, the union of these tabs to the surface from which they were torn has been prevented.

Supra-Vaginal Hysterectomy.—Dr. Howard Kelly, of Baltimore, read a paper upon "Supra-Vaginal Hysterectomy, or Hystero-myomectomy, with Suspension of the Stump in the Lower Angle of the Wound." He limited the operation to cases conceded most favorable for operation—those in which there exists naturally, or in which it is possible to form, a pedicle below the tumor masses, and not atypical cases, in which pan-hysterectomy is called for. The question of the best method of forming a pedicle when the broad ligament is choked with fibroid masses was also not discussed. Operation was discussed in seven steps.

1. Long incision in linea alba, necessary to deliver the tumor from the abdomen. 2. Elevation of tumor until pedicle is brought into view—tying the broad ligament structures until a pedicle is formed and rubber ligature applied. 3. Cutting away the tumor above the rubber ligature by first splitting the peritoneum high up, and then cupping out the upper face of the stump. 4. Closure of raw face of stump by uniting the opposite sides by a continuous buried suture of catgut, drawn tight to

check hemorrhage. 5. Cutting away the rubber ligature and securing any bleeding points. 6. Closure of abdominal incision down to the stump. 7. Dressing the wound. This was done by packing under the edges of the skin over the now suspended stump some antiseptic gauze; then over the whole a large square of gauze, in which there is a small slit, is placed, and then the long ligatures uniting the peritoneal lips of the stump are pulled through and grasped in the bite of a pair of long Keith's forceps laid horizontally to the body.

The advantages claimed for the operation were: Hemorrhage is not dangerous when it occurs, as it is under control, and sepsis cannot get into the abdominal cavity, and the facility of attaching the pedicle in the lower angle of the abdominal wound, especially if short.

Fractures in Children.—Dr. Edward Martin, of Philadelphia, read a paper, the result of a critical study upon over one thousand cases of fracture in children under twelve years of age. He stated that, contrary to general authority, fractures of the radius were most frequent, and that of these Colles's fractures were not so commonly found as in adults; next in order of frequency came fractures of the humerus, then fractures of clavicle and femur.

Fractures in children were peculiar in the fact that there was usually little or no displacement, due to thickened periosteum and slight muscular power. Greenstick fractures were always due to rupture of bony fibres, except in cases of rickets, when true bending might take place. Epiphyseal fractures were exceedingly rare, though injury near the epiphyseal line was common.

Diagnosis at times difficult. Treatment must be such that the patients could not escape, yet they could not be applied tightly. Prognosis always good.

Peroxide of Hydrogen.—Dr. Robert Morris, of New York, read a paper on "The Peroxide of Hydrogen." He urged strongly the use of this material in all cases where pus was present, and believed it superior to any other drug or compound for this purpose. He had used it largely, and with the most gratifying results.

Third Day, Thursday, May 22d.

Early Abdominal Section.—Dr. J. G. Carpenter, of Stanford, Ky., read a paper entitled "A Plea for Early Abdominal Section in Intestinal Obstruction."

He believed the best time to operate was as soon as the diagnosis was made, and before complications set in, and quoted the views of many surgeons to support the above. He advised the use of Senn's test, and condemned the use of opium in cases of intestinal obstruction. He believed that by Senn's intestinal anastomosis, lateral apposition, lateral implantation, intestinal exclusion, and Senn's modification of Jobert's operation by circular enterorrhaphy, the mortality of intestinal obstruction would be lessened in the future.

Election of Officers.—The following officers for the ensuing year were then elected: Dr. McGraw, of Detroit, *Chairman;* Dr. J. B. Deaver, of Philadelphia, *Vice-Chairman;* Dr. W. A. Davis, of Alabama, *Secretary.*

The Management of Major Amputations was the title of a paper by Dr. J. G. Wyeth. He believed the chief point to be looked after was the prevention of hemorrhage, and next the preservation of as much of the length of a limb as possible. The question of antisepsis and operation during shock was briefly discussed, and two new methods of operation advised. 1. Bloodless amputation of the hip. 2. Bloodless amputation of the shoulder. Diagrams were presented showing the different steps of the operation at the hip. The patient should be placed on the edge of the table, the hip to be operated on well over the corner of the table—Esmarch bandage applied. Then two steel mattress-needles, three-sixteenths of an inch in diameter and a foot long, are inserted, the first one inch and a half below the anterior superior spine of ileum, and slightly to inner side of this prominence, traversing the muscles and deep fascia, passing out posteriorly between the great trochanter and the iliac spine, external to neck of femur.

The second needle is entered below the level of the crotch, internal to the saphenous opening, and passing through the adductors, coming out about an inch and a half in front of tuber ischii. Strong rubber tubing is now wound around the thigh, and above the fixation needles slightly tied. After removing the Esmarch, a circular incision is made, and a cuff, including subcutaneous tissues, down to the deep fascia is dissected off to the level of the lesser trochanter, at which level the muscles are cut and the bone sawn through. All vessels are easily seen and are tied with catgut. The remainder of the femur is then removed by dividing the attached muscles and ligaments in and around the hip-joint.

In some cases it is advisable to do the operation in two sittings.

The same operation was advised for the shoulder-joint. To preserve the length of limb after osteomyelitis, drainage-tubes were used, passed into the medulla after the latter had been thoroughly scraped out with a Volkmann's spoon, and thus a longer stump was secured.

Abdominal Section and Drainage for Purulent Peritonitis was the title of a paper read by Dr. Joseph Price, of Philadelphia. He urged operative interference in all cases as soon as the diagnosis was made.

Surgical Treatment of Biliary Obstruction was read by Dr. H. O. Marcy, of Boston. The article was a very exhaustive one, the literature of the subject thoroughly reviewed, and the various methods of operation discussed. He believed every case of wound or perforation of the gall-bladder should be operated on; also cases of empyema, cystic dilatation, and biliary obstruction that do not yield to medicinal treatment.

Cholecystotomy was indicated in cases where the gall-bladder and the ducts have undergone much pathological changes. When the gall-bladder is resected the entire secreting membrane must be removed.

When a stone is found in the common duct it may sometimes be dislodged by pressure. When this is impossible, crushing may be done. If this fails it should be removed by incision into the duct. He advocated the use of kangaroo tendon for sutures. When the common duct is permanently occluded, from inflammatory or other changes, the cystic duct remaining open and gall-bladder not particularly disorganized or adherent, a permanent fistulous opening may be made. In performing cholecystotomy it is well to remember that gall-bladder walls are very thin, and manipulation must be gentle.

The paper was discussed by Drs. Senn and Deaver.

Gunshot Wound of Brain.—Dr. J. Lee McComas, of Oakland, Md., read a paper on "Gunshot Wound of the Brain—Recovery, with Ball remaining therein." W. C——, male, aged sixteen, shot September 29, 1889; cartridge a 22 short; three grains of powder; weight of ball twenty-eight grains; shape conical. Ball entered a little below the internal end of right arcus superciliaris, passing through the frontal sinus downward and backward to the left as indicated by probe. Considerable hemorrhage. Three hours later was insensible, pupils dilated, vomiting at intervals, blood in right nostril. Temperature, 97 $\frac{2}{5}$° F.; pulse, 52; respirations, 22; pulse irregular, extremities cold. His condition remained critical for many days, but he finally recovered. During this time his symptoms showed that Broca's speech-centre and the island of Reil were injured by the ball, as he had aphasia; and though he understood everything said to him, and made efforts to reply, he could not regulate his speech movements, and was painfully conscious of his defects, as was expressed by crying and becoming angry if questioned or asked to repeat anything. He also had paraphasia, for when he could speak he uttered such words as kame for comb. Nor could he write the alphabet, but always made letter B, and realized his error if attention were called to it.

He has had ptosis, strabismus, and dysphagia in addition,

and just how many of these were due to the bullet, and how many to extravasated blood, cannot be positively said, but probably most were due to the latter cause. He is now well, only more irritable than before injury; works as a painter at great heights, and says he never feels giddy; mouth is slightly drawn to the right, tongue also, eyes act normally, sight is perfect; he can read and write.

FOURTH DAY, FRIDAY, MAY 23D.

Treatment of Flat Foot by Thomas' Method.—This paper, by DR. W. R. TOWNSEND, of New York, was based upon a series of over fifty cases treated by the method during the past two years at the Hospital for Ruptured and Crippled, New York.

The method consisted in building up the inner side of the shoe from extreme back end of heel to a point just behind great toe—the raised portion being from one quarter to one-half inch, varying according to the age of the patient and severity of case. Symptoms of flat foot were briefly given, and the conclusion reached that the method could be used to advantage in cases where the spasm was not a marked symptom. In these cases it gave no relief and could not be tolerated by the patient, as a rule. Its advantages were cheapness, simplicity, and success if used in proper cases. It relieved or improved the symptoms but could not be said to cure the cases, as in none of those so treated was the normal arch ever restored.

DR. BELL, of Indiana, made some remarks upon intubation of the larynx.

The two following papers were read by title: "Fractures of the Base of the Skull," by Dr. H. C. Wyman, of Detroit; "Abscess of the Prostate Gland," by Dr. H. C. Hart, of Philadelphia.

The Section then adjourned, after having passed a vote of thanks to the presiding officer, Dr. Watson, of Jersey City.

SECTION ON PRACTICE OF MEDICINE, MATERIA MEDICA, AND PHYSIOLOGY.

THIRD DAY, THURSDAY, MAY 22D.

(Continued from page 627.)

DR. KIERNAN, of Chicago, had seen but one case in which there were the characteristic symptoms of so-called hydrophobia, and this diagnosis was confirmed by a physician who claimed to have seen fifteen cases. The man, however, recovered, and then it was said not to have been hydrophobia. This case led him to doubt the existence of a distinct affection called hydrophobia. Unlike in other infectious diseases, the period of incubation, it was said, might be years; and the type or severity of the disease would vary according to the point of inoculation. Not a single symptom attributed to hydrophobia but could be produced by tansy, alcoholism, fear, and epilepsy. When an epidemic of fear of hydrophobia existed, many cases were reported; at other times there were few. Formerly the annual death-rate from hydrophobia in Paris had been said to be five; after Pasteur's experiments it rose to twenty-one.

Imagination in Pigs.—DR. SCOTT, of Cleveland, thought the development of rabies in pigs, and others of the lower animals, following the bite of the dog suffering from rabies could not be accounted for by fear or the workings of the imagination, and if simple anger on the part of the dog was all that was necessary to cause hydrophobia in his victim, all the pigs in the country would show rabies.

He once attended a boy who had what he believed was hydrophobia, and the medulla oblongata on gross examination was found only of half the usual size, and surrounded by serous exudate. Microscopical examination was not made.

A Case Treated by Pasteur.—DR. L. D. BULKLEY, of New York, put on record, for the first time, the case of a child who, three or four years ago, was bitten on the nose by what was believed to be a rabid dog. The dog bit some other animals, which afterward became mad; but before he could notify the people not to kill the animal this had been done. The body was sent to Liautard, who examined the cord, etc., and expressed the opinion that it was a case of rabies. Inoculations of other animals, caused the disease. About seventeen hours after the bite, too late to be useful, Dr. Bulkley cauterized the child's nose. He accompanied the parents immediately to Paris, and the next day saw Pasteur, who wished to postpone inoculations until he could telegraph Liautard, but at the urgence of Dr. Bulkley made the inoculations at once. The child had shown no symptoms of hydrophobia up to the present—four years.

Hydrophobia Produced by the Polecat.—DR. SEARS said that in Texas children bitten by polecats, or by dogs which had previously been bitten by this animal, had become hydrophobic, and he knew of no remedy. He, therefore, was very thankful for the work being accomplished by Pasteur.

The Experience of an Old Practitioner.—DR. N. S. DAVIS had seen but one case of supposed hydrophobia. It was that of an engineer who had first been seen by other physicians, who sent him to the hospital, where he died within eighteen hours. Neither the patient, while conscious, nor any of his friends, could recall the history of a dog-bite or of any injury. He had been on something of a spree two or three weeks while out of a job.

Dr. Davis had seen many cases of dog-bite, but none in which the animal had not been killed, so that the existence of rabies could not be proven.

Rivals Pasteur's Treatment.—During the past twenty years he had directed such patients to keep the wound covered by a cloth saturated with a solution of carbolic acid and hyposulphite of soda, and to take in water ten grains of the hyposulphite of soda three times a day, continuing it three or four weeks. He did not pretend to say this prevented the development of hydrophobia, but none of his cases had had it, and therefore it could be said he had had better results than Pasteur.

An aged physician from Ohio said he had seen numerous persons bitten by dogs, but had never seen a case of hydrophobia.

Malaria and the Causation of Periodic Fevers.—DR. H. B. BAKER, of Lansing, advanced facts in support of his view of the causation of periodic fevers expressed in a paper two years ago. The facts consisted of charts based on statistics of intermittent fever and the state of the temperature at the time, as observed in Michigan and during the War of the Rebellion ("Medical and Surgical History of the War"). It appeared from these tables that the chief factor in the causation of intermittent fever was changes of temperature; and while he did not deny the existence in the blood of the elements or germs described by Osler and others, he held that these were followers, and not the producers, of the fever.

These changes in temperature were most common in tropical regions, next in the temperate—the difference between the night and day air being often very marked. Here, too, the body was least able to react quickly under such sudden atmospheric changes. Remedies directed against torpidity of the liver and toward increasing bodily vigor were among the most efficacious.

Changes of the Blood in Malarial Fevers.—DR. GEORGE DOCK, of Galveston, presented diagrams and read an exhaustive paper on changes of the blood in malarial fevers. His own studies, including examinations of the blood in thirty patients, were confirmatory of what had been seen by Drs. Sternberg, Osler, Councilman, and others. He had, however, seen no cases of the quartan type. In some of the specimens under the microscope he was able to study the bodies contained in the blood of the malarial patients from the small amœboid stage to the colorless, transparent cells of the corpuscles. They disappear under treatment by quinine or by nitrate of potas-

sium, the former of which was the well-known specific in these affections. The presence of these bodies had enabled him several times to make a differential diagnosis, and settle on a method of treatment. He regarded them as causative.

Dr. Baker, of Lansing, advanced some reasons for the belief that, although such bodies existed in the blood, they were not causative of intermittent fevers.

SECTION ON DISEASES OF CHILDREN.

(Continued from page 630.)

Third Day, Thursday, May 22d.

The Significance of Fever in Children.—Dr. W. L. Stowell, of New York, read a paper on "The Significance of High Temperature in Children." The infant had naturally a higher temperature of from one to two degrees than the adult. He specified as to what was a dangerous temperature in the various infantile maladies. Each disease had its own peculiar thermal features which did not always coincide with those of the same diseases in adults. In many of these clinical conditions the prevalent use of antipyretics was not only useless, but often injurious. Moderate dosage of them relieved symptoms. Aconite and veratrum viride were serviceable if given early. Quinine was useless for reducing temperature, but good in small tonic doses. The tendency of many heat-reducing remedies to produce cardiac depression should not be lost sight of. In febrile processes in children there was a tendency toward reparative processes rather than toward those of a degenerative nature. Feeding was of primary importance. Diet itself might be a febrifuge.

Dr. E. Cutter, of New York, had often reduced fever by a diet of beef without any medicine whatever. He regarded all fever as an effort of nature to get rid of offending material.

Dr. W. P. Watson, of Jersey City, regarded heart failure or nervous symptoms as the indication for vigorous antipyretic measures. Sponging, if properly done, was advisable. Digitalis should be given with antipyrine and kindred remedies. Carbonate of ammonia could also be given, but it should be used in frequent doses. We should not forget that fever often upset the secretions of the stomach; hence the advantage of external over internal antipyretic measures.

Dr. Frank Woodbury, of Philadelphia, thought we had neurotic and poison fevers. The latter called for the removal of the cause, which could be accomplished by internal medication. In the former cooling the surface of the body often alone sufficed. The eyes as well as the head proper should be covered with wet towels, so as to shut out all sources of reflex irritation. Fever was a form of energy. The latter normally was expended in keeping up proper bodily heat and in the performance of automatic and voluntary motor functions. In disease, the first avenue took all the energy. Hence rest and the reduction of the heat-production were the therapeutic indications. Fats applied to the skin in exanthems were often as good as cooling the surface by fluids.

Dr. Work, of Indiana, paid special attention to the emunctories and used tepid (not cold) water, particularly on the back of the head and neck.

Dr. E. F. Brush, of New York, had found that where the mercury rose very rapidly in the thermometer when the latter was placed in position, we usually had a mild case of disease, but when it rose more slowly, even though not as high, it was a more serious matter. Whenever fever rose to 103°, he gave warm water injections, and if bowel action was necessary he gave a small turpentine enema.

Dr. Larabee, of Louisville, said he tried to manage rather than to treat fever: the less medicine used the better. Hyperpyrexia should be treated, but not mere pyrexia. Those cases of high temperature due to neuroses were best treated by the warm pack. He advocated rectal injections with cold water coils for the head. A temperature of 104° F. needed treatment.

Dr. Boyd, of Pennsylvania, had found the best way to reduce temperature in children was to apply tepid water over chest and abdomen.

Discussion on Croup and Diphtheria.—The Section then adjourned to listen to the discussion on Croup and Diphtheria before the Section on Laryngology. This was opened by Dr. Carl Reiter, of Philadelphia, who advocated the duality of the diseases. Dr. William Porter, of St. Louis, believed in their unity, as did also Dr. Jacobson, of Syracuse, N. Y. "Croup" signified to him a laryngeal obstruction due to false membrane. He thought the attempt to differentiate the disease as often attended with great danger to the public health. If a diagnosis of croup was made, isolation was apt to be neglected. The disease was thereby conveyed to others. There was undoubtedly a croupous inflammation of the larynx without any pharyngeal exudate, not contagious and without constitutional symptoms. Cases of this nature which did spread to others could possibly be explained by the fact that a preceding fibrinous pharyngitis had been overlooked.

Dr. C. E. Early read a paper on "Croup," showing that what the early writers described as this disease coincided exactly with what we now call diphtheria. He believed in the unity of the two. He placed reliance in the treatment with ipecac, chlorate of potash, and chlorate of soda in solution. In manifestly diphtheritic cases, he added bicarbonate of soda, cared for the emunctories, and stimulated freely.

Dr. H. H. Didama, of Syracuse, N. Y., was in favor of unity.

Dr. W. H. Daly, of Pittsburg, advocated the use of pure calomel as the best plan of treatment. He had brought forward this idea four years ago. Further experience had only confirmed his earlier views. It should be given in doses of two to five grains every one, two, or three hours, up to free catharsis.

A paper by Dr. F. E. Waxham, of Chicago, was read by the Secretary. He advocated intubation as preferable to tracheotomy. He had had 100 successes in 285 cases, or thirty-five per cent.

The subject was further discussed by Drs. Shimmel, of Philadelphia; Brush, of Mt. Vernon, N. Y.; Scott, of Cleveland, O., and Shirley, of Detroit. Dr. Scott advocated the use of a saturated solution of iodoform in ether. Dr. Brush had found that the best way to feed intubation cases was to have the patient flat on the back and to use a nursing-bottle with a long tube.

Fourth Day, Friday, May 23d.

The following papers were read by title: "Further Observations upon Foot and Mouth Disease in its Relations to Human Scarlatina as a Prophylactic," by Dr. J. W. Stickler, Orange, N. J.; "Notes on a Case of Tetany," by Dr. Jacob Schenck, Mount Carmel, N. Y.; "The Importance of Preliminary Treatment of the Nasal Mucous Membrane before Resorting to Operations," by Dr. Carl Seiler, Philadelphia, Pa.

The following paper from the Section on Dietetics was also read by title: "Diet in Consumption," by Dr. Hubul Judd, of Galesborough, Ill. After a few remarks by the Chairman the Section adjourned.

The concluding work of the series Rougon-Maquart, by Emile Zola, is to be entitled "Docteur Pascal." The author is said to have taken for his hero and model the celebrated chemist and physiologist, Claude Bernard, whose domestic life, it appears, was so unhappy that he described himself as one of the "martyrs of marriage."—*Medical Press.*

Nothnagel's Pill for Constipation.—℞. Podophyllin, gr. $\frac{1}{10}$; ext. aloes, gr. j.; ext. thei, gr. j.; ext. taraxacum, q. s.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DR. SANSOM ON RAPID HEART—PERSISTENT THYROID DUCT—MYOMA OF UTERUS BECOMING SARCOMATOUS—TUBERCULAR DISEASE OF THE LIVER WITH CAVITIES—SUCCI'S FAST—SURGEON T. H. PARKE.

London, May 10, 1890.

The Medical Society's annual "Harveian Oration" was delivered on Monday last by Dr. Sansom, Physician to the London Hospital. Dr. Sansom took for his subject the consideration of certain cases of abnormal rapidity of the heart's action. He explained that he did not propose to consider any cases in which valvular or other organic heart disease was found to precede the signs of morbid acceleration. He also excluded cases in which the condition of rapidity was associated with states of disease accepted by general experience as predisposing causes of such acceleration—such, for instance, as fever, the direct influence of certain germs, marked anæmia, hemorrhage, the operation of certain poisons, and conditions of peripheral irritation such as the presence of undigested food in the alimentary canal, and the sometimes pronounced effects of intestinal worms. Dr. Sansom also excluded cases in which the acceleration was solely paroxysmal ("paroxysmal hurry of the heart"), and also cases of palpitation, when such symptoms occurred in the case of a heart manifesting at the times when such palpitation was absent a normal rate of action. Restricting his review of cases to those not excluded for the above reasons, Dr. Sansom employed the term "The Rapid Heart" to designate the clinical condition met with. In some cases there was reason to believe the heart's action was quickened for very protracted periods. The limit of normal frequency was fixed by the orator at 90 in the adult; he thought we must regard as morbid a frequency exceeding this. (In children the cardiac pulsations were normally much more rapid, and were readily excited to a high degree of frequency by various intrinsic and extrinsic causes.) There were several classes of cases in which, in adult life, a long-persistent abnormal rapidity of the heart's action had been observed. In Graves' disease the pulse-rate might be 100 or 150, and under excitement might rise to 180 or 200; this acceleration of the heart's action was often the first sign, and might be for long periods the only manifest sign, of the affection. The disease was serious and often fatal, and the chief cause of danger was in the cardiac involvement; in fatal cases the heart was constantly found dilated and hypertrophied, but in no considerable degree. Another class of cases occurred in soldiers. Dr. J. M. Da Costa applied the term "irritable heart" to designate an affection he observed among the men engaged in the American Civil War. Dr. Da Costa observed more than three hundred cases of persistently quick action of the heart, and many of them manifested no obvious departure from health; the respiration-rate was not quickened *pari passu* with the pulse. "Rapid heart" had also been noticed in association with osteo-arthritis by Dr. Kent Spender, of Bath, who said: "The pulse quickens with the earliest objective signs of osteo-arthritis, there is a gradual rise until the numerical frequency of 110, 115, or 120 is reached, and there is scarcely any physiological variation during day or night. And the cardiac tumult does not always subside, even when the osteo-arthritic phenomena come down; a quickness and irritability continue which no medicine effectually controls." Cases of rapid heart without notable morbid association also occurred and Dr. Sansom proceeded to consider such cases in detail. Dr. Bristowe had published nine cases, and excluding one of these on account of the co-existence of organic (valvular) disease, and another because the symptoms were more strictly paroxysmal, seven cases remained. In several of Dr. Bristowe's cases the patients were unconscious of anything abnormal. Yet five out of the seven cases died with signs which seemed to show that the affection was in causal relation with the deaths. One case ended in albuminuria, and death, after three weeks. In another, after undue rapidity of heart—the rate being from 200 to 260—had continued for six weeks, agonizing pain at the pericardium supervened, and the patient died with symptoms of pulmonary obstruction and failing heart. One of Dr. Bristowe's cases was ushered in by an attack supposed to be a sunstroke. Of six cases mentioned by Dr. Broadbent, one became hemiplegic and another died in convulsions. In one fatal case recorded by Dr. Bristowe, the heart was found post-mortem to be somewhat dilated and hypertrophied, but both the valves and the walls were healthy. In a case noted by Drs. Dreschfeld and Maguire, in which there was a history both of syphilis and of alcoholic excess, the heart was large and its tissue degenerated. The question arose whether the affection was one of the myocardium or of some portion or portions of the nervous system. Dr. Bristowe thought it had no special connection with cardiac disease, and that dilatation and hypertrophy of the heart, when occurring independently of valvular mischief, were the slowly-developed consequences and not the causes of the disturbance. On the other hand, Dr. Samuel West regarded cases of paroxysmal hurry of the heart as due to an organic lesion of the muscular substance, which might be in some cases a form of chronic interstitial myocarditis, consequent, perhaps, on rheumatic pericarditis or on syphilis, and thus related to fibroid disease of the myocardium.

Dr. Sansom then gave a summary of his own experience on the subject. He had notes of seventy-five cases, which had been under his own observation. He did not include in this series any in which, anteriorly to the signs observed, there had been any evidence of organic cardiac disease, nor any with which any other structural disease was cognately in association, nor any manifesting a palpitation which was only paroxysmal; but only those cases in which there was observed an abnormally rapid action of the heart for comparatively protracted periods. He grouped the cases in two divisions: First, those in which there was no association whatever with the recognized signs of cardio-vaso-motor disease, 46 in number, comprising 30 females and 16 males; secondly, cases in which this association existed, 29 in number, 24 females and 5 males. In many of the cases in the first group the onset was ascribed to physical or mental overstrain (shock), but in others the onset of the symptoms was gradual, and associated only with vague dyspepsia; restlessness and insomnia were common. The conditions in the two sets of cases were closely allied, both being probably secondary to nervous implication. The differences between the two sets of cases were of extent rather than of kind. In the very marked cases treatment was practically useless, but it had proved of value in the less severe ones. He recommended particularly the application of a continuous current of electricity over the great nerve-centres. One of his cases received marked benefit from the application (continued daily for ten days) of weak galvanic currents from the cervical spine to the region of the great nerves in the neck.

Some interesting subjects were brought forward at the last meeting of the Pathological Society. Two cases of persistent thyroid duct were described by Mr. Raymond Johnson. Mr. Albau Doran exhibited a myomatous tumor of the uterus, which was becoming sarcomatous, and had been removed from a woman thirty-one years of age, by Mr. Thornton. Among the other specimens shown was one of tubercular disease of the liver. This was exhibited by Doctor Hector Cameron. The tubercular disease was very extensive, and there were numerous cavities in the liver containing caseous material. The case was not one of actinomycosis, for the ray fungus had been sought for and could not be found. The patient had been admitted into hospital for thoracic symptoms,

and after death tubercular disease was found in both lungs.

Succi's fast of forty days continues to excite interest both in professional and lay circles. Though not the first experiment of its kind, it is perhaps the most carefully conducted one which has hitherto taken place in this country, and the surrounding conditions were such as to throw no doubts on the genuineness of the fast. The most regrettable feature of the affair is the sensationalism which has been imported into it. This element still continues. While during the fast advertisements of "Succi's fast" were to be seen on every hand, we are now similarly inundated with advertisements headed "Succi's feast," and puffing the various foods he is taking to recuperate with.

The gold medal of the British Medical Association is to be presented to Surgeon T. H. Parke, of the Army Medical Department, late surgeon to Stanley's expedition.

OUR PARIS LETTER.

(From our Special Correspondent.)

ACCIDENTS WITH COCAINE—ANTIDOTES—NITRITE OF AMYL AND ETHER—NAPHTHOL IN PURULENT OPHTHALMIA—PROS AND CONS OF CURETTAGE—GENERAL TREATMENT OVERLOOKED!—THE MICROBE OF OLD AGE AN HEREDITARY PRODUCT.

PARIS, May 2, 1890.

DR. DELBOSC, a pupil of Dr. Reclus, Hospital Surgeon, who vaunts the employment of cocaine in surgical operations, has just published a statistical and clinical report on the accidents produced by this substance. He collected the histories published of accidents, from which he has been able to establish that up to the present time, only five deaths have occurred after the use of cocaine. This proportion would evidently go against the method if only the bare facts be accepted without interpreting them. From the various observations published, it would appear that death resulted from the enormous doses that were administered, varying from 75 ctgr. to double that quantity. According to Dr. Delbosc cocaine may be employed at the maximum dose of 20 ctgr., although he would not advise such a dose ordinarily, as beyond that quantity serious accidents occur. The first death however, from cocaine took place after a dose of only 75 ctgr. The penetration of the liquid into a vein has sometimes been noticed, and it is probable that this may thus explain the production of accidents with a feeble dose. To obviate this accident it is sufficient to push the piston of the syringe according as the needle is forced into the tissues. It is possible that a vein may be pricked and a drop of the liquid be introduced into the calibre of this vein, but the rest of the solution will certainly be diverted into the cellular tissue. Moreover, to avoid the rapidity of absorption, solutions too concentrated should never be employed. Dr. Reclus has adopted a two per cent. solution and he has never since had any accident, although he has performed, since June last, twenty-five important operations, among which are cited castrations, radical operations for hydrocele and hernia, and two gastrotomies. Dr. Reclus observes that it is not necessary in order to obtain anæsthesia to push the needle into the muscles or the subcutaneous cellular tissue, but into the thickness of the dermis. In order to combat the accidents which, in spite of all precautions, may occur, the nitrite of amyl, injections of ether, and caffeine are indicated. Against convulsive accidents chloral or chloroform may be employed.

In cases of purulent ophthalmia, Dr. Budin, Accoucheur at La Charité Hospital, gives the preference to the use of naphthol for the following reasons: With naphthol the swelling of the lids yields rapidly, the cauterizations will be less frequently required, and if the naphthol will not altogether replace the nitrate of silver, it renders great service as an adjuvant. In the treatment of purulent ophthalmia it is far preferable to boric water. Dr. Budin, in his clinical observations, cites a case in which, the solution of boric acid not having produced any amelioration, with the naphthol the conjunctivitis, which lasted a long time, rapidly disappeared. Since the researches of Dr. Budin, naphthol A, which is twice as antiseptic as naphthol B, has been adopted in practice. Dr. Valude and, in a recent thesis, Dr. Dupont cite observations in which the naphthol A gave excellent results. The non-alcoholic solution employed, which is more difficult to obtain, is composed as follows: Naphthol A, 20 ctgr.; distilled water, 1,000 gm.

A debate has been going on for some time at the Société de Chirurgie on the pros and cons of "curettage" and cauterizations in the treatment of endometritis, but no practical conclusion has been arrived at. Among the advocates for curettage may be named, Dr. Bouilly, who considers that curettage applied to the uterine cavity is the best remedy for endometritis. Dr. Trélat, whose death was reported in my last, stated at the meeting of the Société de Chirurgie, just before his fatal illness, that he preferred curettage for the cure of the different forms of metritis, on the grounds that the sticks of the chloride of zinc were inefficacious, because they acted only on the neck, which is the narrowest part, and not on the uterine cavity, which, being larger, is not in contact with the caustic, and he had seen several women who became affected with stenosis of the uterine neck after this treatment. Dr. Polaillon, who is a great partisan of intra-uterine cauterization, observed that while curettage may have cured metritis when practised by able hands, it also has a tendency to produce stenosis of the uterine neck, but he thought that in either case, if proper measures be taken, this accident might be prevented. Dr. Reynier, who had practised both methods, stated that with curettage in the treatment of endometritis he had obtained immediate amelioration, but at the end of five or six months, the symptoms often reappeared. Of fifteen operations of this kind, he obtained only five perfect cures. He then tried the treatment by the sticks of the chloride of zinc, and had seen hemorrhages cease immediately, but to reappear later on, notwithstanding that the patients were confined to their beds until after the return of the menstrual period, that is to say, during thirty-five or forty days. Of six patients that came under his notice, three had atresia of the uterine neck. This atresia may be produced rapidly, but more frequently it takes place slowly. He has therefore returned to curettage followed by cauterization with the chloride of zinc or with creasote. The author thinks that curettage prepares the way for cauterization which it renders more efficacious. Cauterization with the sticks of the chloride of zinc may appear to be an operation more simple than curettage, but it is not applicable to all cases, although it succeeds perfectly in old cases of chronic metritis, and particularly in women approaching the age of the menopause. Another group of surgeons, among whom may be named Drs. Richelot, Lucas-Championnière, and Terrillon, will have neither curettage nor cauterization in the treatment of these cases, as they consider them a waste of time, but at once resort to the more radical measures such as laparotomy, hysterectomy, etc. It may be remarked that during the long discussion that has taken place with reference to uterine maladies and their treatment, no allusion whatever has been made to the general treatment of the patients, the speakers seeming to forget the intimate connection that exists between the uterus and the other parts of the organism. However brilliant surgical operations may be, they are still incomplete without general treatment.

"Professor Brown-Séquard distanced." Under this heading Dr. Burggraeve writes in his *Répertoire Universal de Médecine Dosimétrique* that a Dr. Malin-Conico, of Naples, pretends to have discovered the microbe of old age. The publications of that country announce very seriously that the microbe of old age exists and is trans-

mitted by heredity; invades with age the entire human organism, which it ravages and destroys, leading to caducity and finally to death. The above-named Dr. Malin-Conico hopes thus to have found the means of combating this invisible enemy, and thus preventing man from getting old.

At a recent meeting of the Academy of Sciences, Professor Verneuil exhibited divers plastic models of deformities of the feet. These deformities, according to the author, are analogous in appearance to club-foot coming on after phlebitis, but very rarely, as out of fifty cases he had observed only three for the first time. The muscles in the interior, that is those nearest the bone, are affected in these curious deformities, which distinguishes them from club-foot, in which, on the contrary, the muscles of the exterior are affected.

The Paris Academy of Medicine has opened to competition a prize of the value of one thousand francs for the best work on the hygiene of infants. The following is the question proposed: To determine what are, in the artificial feeding of infants, the value and the effects of raw milk, warmed, or boiled milk, respectively. The papers, which should be written in French, the other academical rules being observed, are to be forwarded to the Academy before March 1, 1891.

ACTUAL WORK REPRESENTED BY A SPARK OF STATIC ELECTRICITY.

To the Editor of the Medical Record.

Sir: In my article upon "The Place of Static, or Frictional Electricity in Medicine," published in your issue of May 31st last, I made a calculation, based upon actual tests, that a single ordinary static spark represented a muscular energy expended equivalent to raising 1 pound 1 foot per second. That is to say, the energy in a spark translated into muscular work equals the unit of work termed a foot-pound. This, so far, was correct, and served to demonstrate what had been denied, that frictional electricity penetrates the skin and affects deeper tissues.

But in the subsequent conversion of this estimate into horse-power, in order to make the illustration more forcible, an error crept in greatly to the disadvantage of the spark-power. The spark energy is equal to half-horse power per *minute*, not per hour, as printed, and the words in the article relating to this point should read.

"The muscle therefore raises 5 pounds per second, and to raise 550 pounds (the unit of horse-power) will require 110 seconds, or about 2 minutes. The actual work, therefore, capable of being accomplished by the muscle under the stimulus of the spark is at the rate of 1 horse-power every two minutes, or ½ a horse-power per minute."

I am, very truly yours,

William James Morton, M.D.

36 West Fifty-Sixth Street, New York, June 3, 1890.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 18 to May 31, 1890.

By direction of the Secretary of War, a board of Medical Officers to consist of Lieutenant-Colonel Anthony Heger, Surgeon; Major John Brooke, Surgeon; Major Robert H. White, Surgeon; will assemble at the United States Military Academy, West Point, N. Y., June 7, 1890, to examine into the physical qualifications of the candidates for admission to the Academy and, in connection with the Superintendent of the Academy and Commandant of Cadets, the members of the graduating class. Reports of the proceedings of the board will be forwarded through the Superintendent of the Academy, to the Adjutant-General of the Army. Special reports will be made in the cases of any graduates deemed to be physically unfit for the military service, and also in the cases of candidates who may be admitted on probation or rejected. S. O. 121, par. 3, A. G. O., Washington, D. C., May 23, 1890.

Girard, J. B., Major and Surgeon. Granted leave of absence for one month, to take effect as soon after June 1st proximo as a medical officer can be sent to Fort Lowell for temporary duty. S. O. 48, par. 1, Headquarters Department of Arizona, May 17, 1890.

DeWitt, Theodore F., First Lieutenant and Assistant Surgeon. Relieved from duty at Willet's Point, N. Y., and will report in person to the commanding officer, Fort Ringgold, Tex., for duty at that station, relieving Captain Carter. S. O. 119, par. 2, A. G. O., May 21, 1890.

Carter, W. Fitzhugh, Captain and Assistant Surgeon. Upon being relieved will proceed to West Point, N. Y., and report in person to the Superintendent of the United States Military Academy, for duty at that station. S. O. 119, par. 2, A. G. O., May 21, 1890.

Benham, Robert B., Captain and Assistant Surgeon. Relieved from further duty at Madison Barracks, N. Y., and will report in person to the commanding officer Fort Wadsworth, N. Y., for duty at that station, relieving Captain Winne. S. O. 119, par. 2, A. G. O., May 21, 1890.

Winne, Charles K., Captain and Assistant Surgeon. Upon being relieved will proceed to Fort Snelling, Minn., and report in person to the commanding officer thereof, for duty at that post. S. O. 119, par. 2. A. G. O., May 21, 1890.

Alden, Charles H., Lieutenant-Colonel and Surgeon, and Billings, John S., Major and Surgeon. By direction of the Secretary of War, the above-named officers of the Medical Department will proceed to Berlin, Germany, as delegates to the International Medical Congress which is to meet in that city in August next. After the adjournment of the congress the officers named will return to the United States and rejoin their proper stations. S. O. 116, par. 11, Headquarters of the Army, A. G. O., Washington, D. C., May 17, 1890.

Billings, John S., Major and Surgeon. Will while abroad under his orders to attend the International Medical Congress at Berlin, Germany, and before returning to the United States, visit, on official business, such points in Great Britain, France, Italy, Germany, Belgium, Holland, and elsewhere, as may be deemed necessary by the Surgeon-General of the Army, and under such special instructions as he may receive from the Surgeon-General. S. O. 116, par. 12, Headquarters of the Army, A. G. O., Washington, D. C., May 17, 1890.

Loring, Leonard Y., Major and Surgeon, now on sick leave of absence until further orders. By direction of the Secretary of War, relieved from duty in the Department of Arizona. Par. 14, S. O. 115, A. G. O., May 16, 1890.

Wood, Leonard, First Lieutenant and Assistant Surgeon. Having completed at New York City the duties assigned him in S. O. 29, April 30th, Division of the Pacific, to return to his station in that division. Par. 19, S. O. 115, A. G. O., May 10, 1890. Granted leave of absence for one month. Par. 20, S. O. 115, A. G. O., May 16, 1890.

Benham, Robert B., Captain and Assistant Surgeon. By direction of the Secretary of War, so much of paragraph 2, S. O. 119, A. G. O., May 21, 1890, from this office, as relates to him is amended to read as follows: Captain Robert B. Benham, assistant surgeon, will proceed from Madison Barracks, N. Y., to Fort Wadsworth, New York, and report in person to the commanding officer of that post for temporary duty.

Heizmann, Charles L., Major and Surgeon. Leave of absence granted for one month. S. O. 39, par. 1. Department of Texas, May 19, 1890.

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Original Articles.

THE ORIGIN OF SPUTA IN SUBACUTE COUGH.[1]

By W. PEYRE PORCHER, M.D.,

FORMERLY LECTURER ON DISEASES OF THE THROAT AND NOSE IN THE MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA, AND ON MATERIA MEDICA AND THERAPEUTICS AND DISEASES OF THE THROAT AND NOSE IN THE CHARLESTON MEDICAL SCHOOL.

Having had occasion to write a brief article on this subject some months ago, and having had many opportunities for testing the value of the methods employed, I have thought it worthy of being brought before you with some elaborations as follows:

The following notes of cases will illustrate forcibly the conclusion that has urged itself upon me with regard to the origin of sputa in most cases of subacute cough. I do not wish to be understood as implying that all sputa has its origin in the nose and naso-pharynx, any more than I wish to be understood as asserting that the remedy which proved sufficient for the cases cited will act as a panacea for all coughs. But I do wish to say — in the great majority of cases of subacute cough, resulting, as they do ordinarily, from one or more attacks of rhinitis, and even when the cough has existed for a length of time—that treatment directed to the nose and naso-pharynx alone will stop these attacks, as well as many other affections of the upper air-passages, without any applications being made to the larynx or any medicine being given internally.

The first case was that of a patient who, having undergone a fatiguing journey, took a severe cold, which was followed by a violent cough, accompanied with the usual ejectment of sputa in large quantities. A single application of a solution of nitrate of silver (grs. lx. to ℥ j.) to the naso-pharynx was sufficient to materially lessen the cough and cause a decided diminution of the sputa.

A continuance of the treatment relieved him entirely of the cough without a single application having been made to the larynx or trachea, or any medicine given internally. The patient, having been under the impression that the lungs and bronchi were the source of the discharge, expressed himself as being "bewildered" at its sudden disappearance, as well as at the cessation of his cough and asthma, and said that he could not have believed it possible had not it occurred upon his own person.

The next case was very similar to the first, except that it was more of a chronic character.

The patient had previously had several attacks of cough of more or less severity; had gotten thin and pale, and thought himself destined to become a consumptive from the amount of sputa brought up as well as from the obstinacy of the attacks. His septum nasi was deflected to such an extent as to practically occlude his left nostril, and he was therefore dependent upon the right for breathing.

His treatment consisted strictly of applications of nitrate of silver to the naso-pharynx (℥ j. to ℥ j.) every two days until the cough disappeared.

It was especially striking in this case how suddenly the cough and sputa were checked. The attack was at its height on his first visit to me, and that night he had very little cough or sputa. This was due alone to the local treatment, and the large quantity of sputa which he had been spitting up for days past could only have come from the naso-pharyngeal space.

Now, if, as ordinarily stated, most if not all of the sputa brought up by cases of subacute or even chronic cough comes from the larynx and bronchi, how is it possible for a single application of any medicament or any succession of such applications to check the formation of a bowl of sputa in a single night? And yet I am prepared to assert that such has been my experience, and that a continuance of the treatment, in many cases, will cause a complete cessation of the cough and sputa.

It might be said here that this is merely the doctrine warmly advocated by Dr. Horace Green so long back as 1849, but I will state that this is an error, as proved by the following extract from his brochure on "Observations on the Pathology of Croup, with Remarks on the Treatment by Topical Medications:"

"A solution of nitrate of silver (grs. xl. to ℥ j.) was applied as follows: The head of the child, thrown back, was firmly held by an assistant, the tongue depressed, and a small round sponge, fastened to a bent probang of whalebone and dipped in the solution, was passed over the top of the epiglottis and pressed suddenly downward and forward into the cavity of the larynx."

As seen, the applications were made entirely to the larynx, and not to the naso-pharynx as in my cases. Although Dr. Green reiterates the statement that "the exudative inflammation of croup invariably commences in the superior portion of the respiratory passages and invariably passes downward and never in the opposite direction," I would add here that I do not by any means always confine myself to this one agent, as did Dr. Green, but I believe that, after the nose and naso-pharynx have been thoroughly cleansed of the thick viscid secretions, by means of antiseptic lotions, peroxide of hydrogen, listerine, etc., and all pathological incongruities, as deflections, ecchondromata, etc., have been removed from the nostrils, that many other astringents would prove of service, notably iodine, chloride of zinc, etc.

For additional proof I would say that the universal history of the majority of phthisical cases (excepting, of course, such as distinctly originate in the lung, as from various forms of pneumonia or true inflammations of that organ) is that there was first a severe cold, or a succession of colds, beginning in the nose and followed by a cough, and when that became sufficiently chronic the case would immediately be pronounced phthisical by the casual observer. The presence of chronic pharyngitis and rhinitis would certainly be detected in such cases, and proper treatment directed to those parts in the early stages will certainly check the progress of the disease, even in some cases where the cough has existed so long that disintegration of lung-tissues or cavity formation has begun.

Cases of this kind can easily be multiplied, but these suffice to indicate the source of the discharge as well as prove the beneficial results of the treatment.

Lenox Browne, in his last work on "Diseases of the Nose and Throat," makes the statement that it is the universal rule for inflammation in the upper air-passages to pass downward, and a rare exception for it to come from below upward; and nowhere is this rule more forcibly illustrated than in the invariable habit of patients to attribute the origin of an inflammation in the larynx to a previous rhinitis.

The most natural corollary to this is that in inflamma-

[1] Read before the South Carolina Medical Association, April 23, 1890.

tions of the larynx the nose and naso-pharynx are the principal sites to which treatment should be directed, and the deduction would be that the inflammation above produced the sputa, and the sputa which descended produced the cough.

The well-known fact that almost all sensations in the throat are referred to the anterior part of the regio laryngo-trachealis will account for the profound impression of patients that the secretion of sputum is entirely produced by the mucous membrane of the lungs and bronchi, whereas experience has taught us that most generally the pathological disturbances are situated in the choana or naso-pharynx, and the proofs of this are:

1st. Physiological: By irritating the parts, as in a case where an application of the galvano-cautery was made to the pharyngeal tonsil the patient asserted that, for the first time, the seat of the pain had been reached—which she had previously located behind the clavicle.

2d. Pathological: By the different causes which give rise to the cough, viz., colds and inflammations of the naso-pharynx, which, in my opinion, rarely, if ever, originate in the larynx.

3d. By the results of local treatment to parts.

Hence we may conclude from this (and opinion generally supports us in the conclusion) that when a patient applies to us suffering from a cough, we need not administer the invariable cough mixtures containing nauseating doses of antimony, squills, ipecac, etc., but simply confine our treatment to the nose and naso-pharynx.

4 George Street, Charleston, S. C.

THE ADVISABILITY OF WIRING RECENT SIMPLE FRACTURES OF THE PATELLA.

By WILLIAM F. FLUHRER, M.D.,

VISITING SURGEON TO BELLEVUE AND MOUNT SINAI HOSPITALS.

(Continued from page 654.)

Case X.—Simple transverse fracture of the left patella from direct violence; wired six days after receipt of injury; drainage-tube removed eight days after operation. Primary union of wound with apparently bony union of patella fragments. Recovery of motion through forty-five degrees at end of ten weeks.

Refracture, which was compound, ten weeks after wiring, through sudden undue flexion of the limb; re-wiring within eighteen hours after the accident, under continuous irrigation with 1 to 4,000 solution of bichloride of mercury. Adhesions in the joint; drainage-tube removed four days later; primary union of the wound; bony union of the fragments with ultimate recovery.

R. H——, truck driver, aged thirty-five, was admitted into Bellevue Hospital September 5, 1887. The patient is of healthy constitution, but is addicted to the intemperate use of alcohol. The day before admission, while working, he was pushed down by a horse and struck his knee upon the board floor. He was unable to rise. Upon admission he was found to have a simple transverse fracture of the left patella near its middle, with one inch separation of the fragments. A posterior splint was applied to the limb and an ice-cap to the knee.

September 11th.—Opium-wash was substituted for the ice-cap as an application to the knee.

Operation, September 14th.—The wiring of the fragments was performed in the usual manner under continuous irrigation with a 1 to 4,000 solution of the bichloride of mercury. The rent in the capsule was two and one half inches long. There was some infolding of tissue over the fractured surface of the lower fragment. The fractured surface of the upper fragment was completely covered with the turned-in tissue, which dipped down as far as the cartilaginous edge of the fragment. This was the largest curtain of infolded tissue that I had ever observed. It was peeled from the broken surface of the fragment but not cut away. One wire was used to hold the fragments together. This was passed fully three-fourths of an inch from the edges of the fragments superficially, and emerged just back of the edge of the cartilage upon the lower surface, a good bite of bone was thus held in its grasp. The capsular structures were sewn with a continuous catgut suture; the skin wound with interrupted sutures of coarse silk. A drainage-tube was inserted at the place of election and a small piece in a gap in the soft parts at the summit of the joint. The limb was then dressed in the usual manner. The patient required about two pounds of ether during the operation.

September 15th.—The patient rallied well from the ether. He complains of no pain.

September 19th.—The wound was dressed under irrigation. There is apparently union by first intention. The tubes were removed. The limb was redressed as before.

September 29th.—The wound was dressed, and found united by first intention.

October 5th.—The granulating spot at site of drainage-tube was touched with a stick of nitrate of silver. Passive motion was commenced, and the limb was protected from injury by a posterior splint.

October 10th.—Limb flexed through ten degrees.

October 23d.—Through a misunderstanding the limb has been almost constantly bandaged to a posterior splint, the knee-joint being left exposed. There is considerable œdema about the joint, and atrophy of the muscles of the thigh. The movements at the joint had been restricted to very gentle and limited passive motion. The splint was removed by Dr. Fluhrer, and the patient was ordered out of bed, directed to exercise the joint more freely, and massage the limb every day.

November 15th.—The patient walks about the yard with a cane. No independent motion between the fragments.

Refracture.—November 24th, the patient bends the leg past an angle of forty-five degrees. He was allowed to leave the hospital on pass. While intoxicated he flexed the leg unduly and refractured the wired patella. He felt the bone snap and then the blood trickle down his leg. He did not fall after the mishap, but walked about one hundred feet upon the sidewalk and then up a flight of stairs. He was immediately brought to the hospital. Upon admission the temporary antiseptic dressings applied by the ambulance surgeon were removed. There was little swelling of the joint. The patella was found refractured apparently in the line of first breakage. The cavity of the joint was opened by a rent commencing at the middle of the cicatrix of the transverse incision and extending outward one inch. The hemorrhage, which was considerable and had soaked the dressings, was easily controlled by pressure. The end of the wire was easily felt in the interval between the fragments. The wound was dressed antiseptically and the limb immobilized upon a posterior splint.

Operation.—November 25th, ten weeks after the first operation and eighteen hours after refracture. This operation was conducted in the same manner as after the first fracture. The transverse incision opening the joint was made directly through the scar of the first operation. A large clot of blood was found between the fragments. The patella had evidently broken in the line of union, which had been bony, as was clearly shown by the rough fractured surfaces. The wire had untwisted and its lower portion was drawn through the lower fragment. It was bent and rested in the interval between the fragments. By means of heavy pliers the wire was withdrawn from the upper fragment. The interior of the joint was very vascular, and the broken patella surfaces bled freely. The cavity of the joint, especially that portion of the synovial pouch extending beneath the upper fragment, was in great measure obliterated by adhesions. A firm band of adhesion reached from the whole extent of the lower cartilaginous edge of the lower fragment to the synovial membrane covering the anterior face of the femur. The large probe could be introduced behind this partition through

a small opening at the outer side of the joint into a small pocket; through this pocket a drainage-tube was passed, emerging at the scar marking its site at the former operation. There was no fibrous tissue infolded upon the broken surfaces of the fragment. A single heavy wire brought them into exact apposition. The wound was closed and dressed in the usual manner.

November 29th.—The wound was dressed and the drainage-tube removed. There was considerable quantity of sero-sanguinolent discharge upon the dressings.

December 8th.—Dressings removed. There is perfect union in the wound. The interrupted stitches were removed. A posterior splint was applied.

December 12th.—All dressings were removed.

December 15th.—The patient is walking about the ward with crutches. He has flexion at the knee to twenty degrees. His thigh is massaged daily.

January 7, 1888.—The patient is fearful of breaking the patella again, and has therefore not exercised the joint as much as he should have done. He has discarded crutches and walks with one cane. There is slight pain and swelling in the joint at night which disappears with a night's rest.

January 26th.—He has been a little braver in moving the joint, and can flex the leg to an angle of forty-five degrees with the thigh. He walks without a stick.

February 7, 1890.—In November, 1888, when he went to work there was flexion just short of a right angle. He has remained at work since that time, it being the same occupation, that of a truckman, in which he was engaged before he broke his patella. He works frequently fifteen hours a day, and handles heavy packages, sometimes weighing eight hundred pounds. He has perfect power of extension and flexion past a right angle. The joint meeting all the demands put upon it in his daily work, he has, as he acknowledges, failed to practise the motions necessary to acquire complete flexion. The thighs are of the same size. The scar is perfectly movable, and lateral motion of the patella is almost as free as on the other side. The joint never swells nor shows any weakness, and the imbedded wire cannot be felt.

Remark.—The compound character of the refracture is not a peculiarity of the open method of suture, for it sometimes occurs after the non-operative method; but that there is a greater liability after the operative procedure is easily understood when we consider that the weakened plane in the soft parts due to the scar corresponds with the plane of breakage in the patella.

Further, this case emphasizes the force of the remarks made upon the preceding one.

Case XI.—Simple fracture of one of the fragments after an old break of the patella; wiring eleven days after the fracture under irrigation with a 1 to 4,000 bichloride of mercury solution; no infolding of fibrous tissue; a strong membrane between the lower margins of the fragments shutting off the joint; bony union without suppuration; at the end of three months recovery of the same imperfect degree of function that existed before the accident. Refracture of the wired fragment nearly four months after the operation; slight separation of the fragments; treatment upon a posterior splint with good union of the fragments; the displaced but unbroken wire causes some annoyance.

O. V——, engineer, forty-eight years of age, was admitted into Mount Sinai Hospital, June 15, 1886. The patient has always been a healthy man. A number of years ago he had a Pott's fracture of the right fibula which has left some deformity and weakness of the limb. About two years ago, while leaning upon his cane, he slipped and fell, striking the left patella against a rather sharp piece of iron machinery, causing a transverse fracture of the patella above its middle. The limb was placed upon a posterior splint and the fragments were held together with adhesive plaster. After confinement to bed for three months there was found three-fourths of an inch separation of the fragments. He then got about upon crutches. At the end of two weeks, in sitting down he bent his knee rather suddenly, heard a snap and felt a sharp pain, especially in the posterior part of the joint, and found that the patella fragments had been further separated. There was not so much swelling or ecchymosis as after the first accident. The leg was placed upon a Hodgen's splint, the fragments being held in position by means of a padded iron ring retained by a rubber bandage. The apparatus was upon the limb for twelve weeks, the patient being confined to bed for fourteen weeks. At the end of this treatment there was one inch separation of the fragments. After this second accident he used crutches for six months and then a couple of canes. In climbing stairs he required help. Since that time locomotion has been difficult. He has not been able to flex the leg beyond an angle of forty-five degrees. The fragments have become gradually separated from a distance of one inch to that of two and a half inches. They can readily be brought to within one inch of each other.

Four days ago the patient, in stepping from the sidewalk, gave his crippled leg a twist. Having his canes as supports he did not fall. He felt a sharp pain in the joint, which soon became much swollen and discolored; the swelling and discoloration were situated lower down the limb than in the previous accidents.

Upon admission to the hospital there was found considerable swelling and ecchymosis about the knee. The two fragments into which the patella was first broken can be readily felt. The smaller and upper fragment is separated from the lower one two and a half inches. The lower fragment is found to be fractured transversely and the pieces of bone when rubbed together produce crepitus. The limb was placed upon a posterior splint and a poultice applied to the knee. The urine is normal.

Operation, June 22, 1886, under continuous irrigation with 1 to 4,000 bichloride of mercury solution.—A good deal of ether was required to anæsthetize the patient. A transverse incision was made over the site of the last fracture. Quite an amount of clotted blood was found in front of and between the fragments, but there was no infolded fibrous structure upon their fractured surfaces. A firm membranous structure was found extending between the cartilaginous surfaces of the fragments, completely shutting off the synovial cavity of the joint. This membrane was dark and rough and of considerable firmness, oozing blood but not breaking when wiped by the sponge. The fragments were drilled in the usual manner. As considerable force was required to maintain them in apposition, the intention of using a disinfected silk suture was abandoned and a single wire suture employed instead. The line of apposition was perfect except at the inner angle, where there was a slight defect due to a secondary fracture of a small piece from the lower portion of the upper fragment. The capsular structures were brought together with a continuous catgut suture—and the skin incision by interrupted sutures of silk. A piece of small-sized drainage-tube was inserted in each dependent angle of the wound. During the operation the cavity of the joint was not seen; no ligatures were used. The wound was dressed antiseptically in the usual manner.

June 23, 1886.—The patient complains of occasional pain in the knee, which disappeared when the padding of the posterior splint was readjusted.

June 27th.—The wound was dressed under irrigation with 1 to 2,000 bichloride of mercury solution. The gauze was saturated with sanguinolent discharge. The tubes were removed. There is apparently primary union. The wound was dressed as before.

July 4th.—The wound was dressed. There was scarcely any discharge upon the gauze. The wound has entirely and soundly healed. A light antiseptic gauze dressing was applied.

July 9th.—The silk sutures were removed. The limb was bandaged to a posterior splint and the patient was

allowed to get out of bed. The highest temperature was 101.6° F. the day after the operation; after that, the temperature was normal.

For some time efforts were made by means of different devices to bring the two principal fragments of the patella in such close apposition that they could be united by operation and suture, but under prolonged extension upon the upper fragment it could be brought only to within about one inch of the lower one, and the attempt was abandoned. On September 22d, at the end of three months from the date of operation of wiring the broken lower fragment, the patient can flex the leg to an angle of forty-five degrees with the thigh. He can extend the leg horizontally to within fifteen degrees of the line of the thigh. The wired fragments appear to be firmly united by bone. He has as much function in the limb as before the last accident. He is obliged to use a cane.

On October 18th, nearly four months after the operation of wiring, while in a distant city, the patient was assaulted upon the street. He was struck upon the back of the head, and in his effort to keep from falling the muscular strain refractured the patella in the line of the last break. He walked to his hotel. On the 20th he was removed to a hospital. The fragments were separated only about one-sixteenth of an inch and easily yielded crepitus.

The wire had not parted. The slight separation of the fragments was probably due to the limited range of flexion and to the lengthened insertion of the extensor tendon the result of the stretched ligamentous union between the two principal fragments. When the leg was carried to the limit of its range of flexion, the gap between the recently broken fragments was increased only one-sixteenth of an inch. There was much less swelling and ecchymosis of the joint than after the occurrence of the last fracture. Fomentations were applied to the joint for a week, at the end of which time the limb was placed upon a posterior splint and the fragments were held in place with adhesive plaster.

December 6, 1886.—I visited the patient, and through the kindness of his attending physicians, was permitted to examine the condition of his limb. There was no swelling of the joint. The line of fracture was to all appearance the same as that before wiring. There was a slight displacement of the fragments. With a considerable amount of force there was apparently a slight independent motion between them. The wire had apparently, without untwisting, cut partly through the bone, and could be felt prominent beneath the skin. In the line of fracture the fragment was notched on the inner edge and slightly grooved upon the outer edge. There was every prospect that there would be either a very short ligamentous union or more probably a bony union.

January 16, 1887.—The patient wrote me that he had acquired some degree of flexion of the leg, but that upon motion there is a pain in the patella that he never felt before, which he attributes to the presence of the wire.

Remark.—This case is one of the illustrations of the accidents that follow imperfect results of non operative treatment, and the disadvantages under which the patient is placed for successful treatment of a refracture.

The influence of the infolded fibrous tissue upon bony union is further shown by the following case, in which the præpatellar structures were untorn.

Case XII.—Simple fracture from direct violence; tapping of the joint; fragments not perceptibly separated; exploration with a needle; bony union without any special apparatus to hold the fragments together; recovery of power of complete extension; flexion to nearly a right angle.

H. S——, aged forty-four, piano maker, was admitted into Mount Sinai Hospital, March 26, 1886. On March 13th, while alighting from a horse-car, he fell, striking upon his right knee. He did not feel anything give way in the joint at the time, but could not get up on account of the pain, nor could he extend his leg or walk. The knee at once became very much swollen, but not very tender. At home ice, and later hot poultices were applied to the knee. Upon examination at home by his attending physician and my house surgeon, crepitus was obtained, and a transverse fracture of the patella was diagnosed. Later the distention of the joint was so great that the fragments could not be readily felt.

On admission the knee-joint was very much distended. The skin over it is reddened, and the joint is very tender. The limb was placed upon a posterior splint, and iced lead and opium wash was applied to the knee.

March 29th.—The knee remains very much swollen. The patella can be felt. There is apparently, upon gentle manipulation, no motion between the fragments. It was also noticed that the liquid in the joint lifted the patella as a whole, and that fluctuation was in the surrounding sac and could not be felt through any interval between the fragments. Under elastic compression and with antiseptic precautions the joint was emptied by a trocar and cannula of two ounces of dark bloody serum. No independent motion could then be detected between the fragments. The limb was bandaged to a posterior splint.

March 31st.—He has been more comfortable since the joint was tapped. It has not refilled. A line of separation between the fragments can be detected, but upon gentle manipulation there is no independent motion. The temperature has been normal.

April 2d.—The curved needle (see Fig. 5) was introduced into the joint on the outer side, and by its means a narrow gap of separation could be made out between the fragments, which seemed bridged over by firm tissue above. The insertion of the needle was treated as an exploratory procedure, and the existing conditions were not tampered with. A posterior splint was reapplied.

April 10th.—It is impossible to decide, without using undue force, whether the union of the fragments is bony or ligamentous. Passive motion and douching of the limb is to be practised. In flexing the limb the heel is not to be raised from the bed, and the splint is to be applied only at night.

May 5th.—The patient can bend the knee about thirty degrees. He walks about on crutches.

May 22d.—The fragments are united with very little separation. He can flex the leg to almost forty-five degrees. He was discharged from the hospital.

July 13th.—There is no separation of the fragments. It is doubtful if there be independent motion between them. He walks with a cane and can flex the leg through forty-five degrees.

February 6, 1887.—The right patella is notched on both sides at its middle. There is clearly no independent motion between the fragments, and to all appearances bony union. The line of fracture is marked by a slight ridge transversely across the bone, caused by the upper fragment having united with the lower upon a plane slightly anterior to it. The patella is slightly lengthened, being from two sixteenths to three sixteenths of an inch longer than the opposite one. There is perfect control over extension in a horizontal line. He can flex the leg to nearly right angles with the thigh. The thigh on the injured side is from one-half to three-fourths of an inch smaller in circumference than the opposite one. He has been exceedingly timid about moving the joint. After leaving the hospital he neglected following instructions about moving it; but, instead, he tried to recover motion by thrusting the limb among the warm entrails of slaughtered animals. He kept the knee bandaged, the upper turns constricting the tissues. He is directed to douche the knee daily with cold water and to be brave in attempting to move it.

Remarks.—The feature of greatest scientific interest in this case appears to me to be the fact that, on the sixteenth day after fracture, under gentle manipulation the patella moved as a whole, and there was not independent motion between the fragments.

Reflecting upon the important part played by the curtains of infolded tissue covering the fractured bony sur

faces of the fragments as an obstacle to bony union, it seemed to me that they also exerted a great influence over the character of the ligamentous union. It appeared reasonable that could the broken bony surfaces be subcutaneously denuded of these structures preventing bony contact and limiting the amount of bony surface for the formation and attachment of ligament, that it would be possible to achieve either bony or inextensile ligamentous union.

With this in mind, on August 23, 1885, in operating upon Case V., I thrust a common darning-needle, mounted in a wooden handle, into the joint, and observed through the incision that in that case, which chanced to be an extremely favorable one, I could probably have raised subcutaneously the infolded tissue from between the fragments.

To give more range to my manipulations I designed the needle shown in Fig. 4, by means of which I imagined I should be able by carefully considered systematic manœuvres to peel the fibrous tissues from the bone, and with the back of the bend of the needle thrust them from between the fragments as they were brought together.

Fig. 4.

The first case that came to my hand was the following one:

Case XIII.—Simple fracture of the patella with probable infolding of the lacerated fibrous tissue; operation at the end of two weeks of subcutaneously lifting the tissue infolded upon the fragments; a firm short ligamentous union between the fragments at the end of three weeks; ultimate recovery of good power of extension in a horizontal line, and complete flexion without lengthening of the ligamentous union.

M. C——, aged forty, laundress, was admitted into Bellevue Hospital, November 5, 1885. The patient is very intemperate. On the evening of October 26th, while intoxicated, she fell down a cellar-way a distance of fifteen feet, causing a scalp wound over the left eye and a fracture of the right patella. Before admission into Bellevue the patient had an attack of facial erysipelas, spreading from the scalp wound. Upon admission there was found beside the scalp wound a transverse fracture of the right patella, the lower fragment being very small. There was much swelling about the knee-joint, and some redness of the skin. The limb was placed upon a posterior splint and lead and opium wash applied to the joint.

November 6th.—The fragments, which are separated about three-fourths of an inch, were approximated by means of strips of rubber plaster acting upon pads properly placed in relation to the fragments.

November 8th.—Dressings removed and a Little's splint applied.

November 9th.—The Little's splint having proven unsatisfactory, it was removed this morning. The fragments were again approximated by means of adhesive plaster, and a strong plaster-of-Paris splint was applied from the ankle to the upper portion of the thigh.

Operation.—At 2.30 P.M., an opening was cut in the anterior and lateral aspect of the splint, fully exposing the knee. There was considerable swelling about the joint and over the region of the patella. A needle shaped like that shown in the cut was introduced into the joint on its outer aspect between the fragments, and in a line presumably above the level of their cartilaginous surfaces. There was so much puffiness about the joint that it was only with difficulty that the upper fragment could be recognized. The lower fragment could not be distinctly felt. The point of the needle was directed in search of the broken surface of the lower fragment and an effort was made to denude it of its fibrous tissue and raise it from between the fragments. The bone was scraped till a distinct bony grating was easily heard by the bystanders. No pain was thus far felt by the patient. The point of the needle was turned toward the upper fragment, but every prick caused severe pain and contraction of the quadriceps muscle. An hypodermic injection of ℥ viij. of Magendie's solution of morphia failed to relieve the pain of the pricking of the needle. The joint had now become so swollen that the upper fragment could only with difficulty be felt and steadied. The effort to reach the fractured surface of the upper fragment having failed, the needle was withdrawn. There was persistent venous oozing from the needle opening, which, however, was easily controlled by pressure with the tip of the finger. The needle was again introduced half an inch above the lower opening, and after some manipulation, which was painful to the patient, its end was pushed more deeply into the joint toward the femur and the fragment was reached, and then thorough scratching of its surface caused no pain. It was now clear that previously the point of the needle had not been carried deeply enough between the fragments, and that it had engaged the fibrous structure overlying the patella. Some venous oozing followed the withdrawal of the needle. The surfaces were now brought together and bony crepitus was felt for the first time since admission into the hospital. The oozing points were stopped with pledgets of iodoform gauze. The fragments, which could be brought together only with considerable force exerted through the swollen tissues, were held in place by narrow strips of old blanket saturated in plaster-of-Paris paste after the plan of Dr. Little. An ice-bag was applied to the knee.

November 10th.—The splint was cut open its whole length upon its anterior surface, and a common bandage was applied from the foot upward.

November 13th.—Urine albuminous.

November 15th.—The swelling of the joint has somewhat subsided, loosening the retaining strips of plaster of Paris; new ones were applied.

November 20th.—The plaster strips embracing both fragments were again re-applied. No attempt was made to feel the fragments.

December 1st.—The retaining plaster strips were again removed. The patella moves as a whole. Upon gentle manipulation there is no motion at the line of fracture, nor is there a sulcus between the fragments. The strips were re-applied. The highest temperature from the operation was 100.4° F.

December 12th.—The whole apparatus was removed from the limb. The patella was obscured by the œdema about it. Under moderate force of manipulation the nature of the union between the fragments was not determined. The limb was bathed in alcohol and water and the splint was re-applied.

December 24th.—The œdema about the knee is much less, and examination shows that there is about one-fourth of an inch separation between the fragments. The splint was re-applied. It was to be removed twice daily and the limb douched.

January 31, 1886.—Upon careful examination about three-eighths of an inch separation can be felt between the fragments. She is allowed to practise motion in the limb.

March 14th.—For the past two weeks, in walking about, the patient has discarded the use of crutches. She can now flex the injured knee as freely and as far as the opposite one, but she cannot perfectly extend the limb horizontally, the leg in that position forming a very slight angle with the thigh. She walks with a slight lameness, and says she has a slight weakness in the injured knee. Upon measurement there is found three-eighths of an inch separation between the fragments, the same as after the removal of the splint. She has acquired full flexion of the limb without lengthening of the ligamentous union.

February, 1887.—This patient was lost sight of, but upon inquiry it is learned that she died in the summer of 1886. There was no refracture of the patella or of the ligamentous union, and she continued to have good use of the limb till death.

Remarks.—It is to be especially noted that three weeks after the operation upon gentle trial the patella moved as a whole and that there was no independent motion between the fragments. The ligament did not stretch as motion was carried to the full extent of flexion.

This case was an extremely unfavorable one for the first experiment. The length of time that had elapsed since the fracture (thirteen days) made it probable that the fibrous tissues were quite adherent to the underlying bone; besides, the patella was very small and deeply buried. Compensative shortening of the ligamentum patellæ would no doubt take up the slack in the mechanism of extension, and remove the slight weakness of the limb due to lack of perfect extension observed while she was in the hospital.

Case XIV.—Simple fracture of the patella, from muscular action; the infolded subcutaneous tissue lifted subcutaneously three days after the receipt of injury; short ligamentous union between the fragments at the end of three weeks; ultimate recovery of full power of extension and flexion without stretching of the ligamentous union.

F. W.——, aged twenty-five, pedler, was admitted into St. Vincent's Hospital November 27, 1885. The patient has suffered from attacks of acute articular rheumatism. Some days before his present accident had pain and weakness in his left knee. Just before admission into the hospital, while feeding his horses, he slipped and fell, but does not remember striking on his knee. Upon examination there was found a simple transverse fracture of the left patella just above its middle, with slight swelling of the joint, but no ecchymosis. The limb was placed upon a posterior splint and an ice-bag was applied to the knee.

November 28th.—The joint has become swollen and painful. Ecchymosis about the joint is appearing and extending.

November 30th —The patient was prepared for wiring of the patella fragments. On account of his obesity and evidences of heart disease he is considered an unfavorable subject for etherization. There is diffused redness and pitting of the skin about the joint, and it was decided to be unwise to proceed with an operation by incision. The patient was kindly placed at my disposal by Dr. Charles Phelps for the operation of subcutaneously lifting the infolded fibrous structures. The fragments of the patella when rubbed together yielded only a sense of soft friction, without any crepitus. The needle was entered on the outer aspect of the knee in the interspace between the fragments. Its introduction was much facilitated by first dipping it in carbolized oil. The broken surfaces of the fragments were speedily and painlessly denuded of their covering of fibrous tissue, and the needle remaining still in the joint a distinct bony crepitus could be felt by placing the hand upon the leg or thigh while the fragments were being rubbed together. After the withdrawal of the needle a pledget of iodoform gauze was held against the opening, which, however, bled but little. As the needle was withdrawn the fragments were held together, and the back of the needle was swept toward the surface and across the joint in a way judged best adapted to extrude the fibrous tissue. The whole procedure occupied less than ten minutes. The fragments were held together by the fingers till all arrangements for the application of a splint were perfected, which, on account of lack of preparation, required about an hour. Finally an apparel was improvised. The limb was bandaged to a long posterior wood splint, nicely padded, and for the pressure of the fingers was substituted narrow strips of canton flannel saturated with plaster-of-Paris, crossing the knee diagonally above the upper and below the lower fragment. Pressure was then made with the thumb and fingers upon the soft plaster strips till the plaster hardened and held the adjusted fragments permanently according to the procedure invented by the late Dr. J. L. Little. Five hours afterward, to make the whole apparel more secure, a plaster-of-Paris bandage was applied over all except the region about the knee-joint. Morphia was given at night.

December 2d.—The swelling in the joint has remained about the same and the patient has complained of some pain of a gnawing character.

December 6th.—The effusion has subsided to such a degree that the plaster strips are losing their hold upon the fragments. The whole apparatus was removed and a Little's posterior splint was applied.

December 7th.—There is no pain in the joint, and the patient feels very well. The Little's splint having proven very unsatisfactory, mainly on account of the poor quality of the plaster, it was removed. The fragments were held together by strips of mole-skin plaster, acting upon suitably placed pads of lint. A plaster-of-Paris splint was applied from the ankle to the upper part of the thigh, leaving the patellar aspect of the knee uncovered.

December 20th.—The splint was cut down and removed. Upon gentle trial the patella moves laterally as a whole. There seems to be good union between the fragments, but whether it is bony or ligamentous cannot be determined. There is no sulcus between them. The highest temperature was 102° F. the night after the operation; it fell gradually to normal the seventh day.

December 28th.—The patient was transferred to his home, the limb being in the splint. Even now there is discoloration of the skin from the ecchymosis of the injury, reaching from the upper part of the thigh nearly to the ankle, posteriorly. At the time of his discharge from the hospital the patient had premonitions of rheumatism, which one week later developed into an acute attack, affecting the right knee and ankle-joints, but did not involve those joints on the left side. This attack lasted two weeks. The splint was kept on as a protection, being frequently removed for washing the limb, till ten weeks after the operation. Upon its removal there was a great deal of œdema about the knee, and the whole limb was defective in vitality. It was douched and massaged daily, but motion was not systematically commenced in the joint till about the middle of February, when the tissues had begun to regain their suppleness. The union between the fragments is by a short ligament.

April 29, 1886.—The patient has motion of the leg a little past a right angle. There has been no stretching of the ligament, which seems especially strong in the right side, the one opposite the side of puncture. For about a month he has been at work.

May 24th.—The fractured patella is about three-eighths of an inch longer than the opposite one. There is independent lateral motion between the fragments. He is able to flex the injured leg as perfectly as its healthy fellow. He can also, while sitting, extend it horizontally, but cannot hyper-extend it. This function of the joint has been regained without lengthening of the ligament. As a pedler he runs up and down stairs as well as ever, and has no pain in the knee. A while ago while walking the knee would sometimes slightly give way, and in recovering control over it he would have pain at the seat of fracture, but now he very seldom has this difficulty.

June 22d.—The patient has complete power of extension and flexion of the limb, without lengthening of the ligament, and the leg has not given way or failed him in any degree since the last note.

October 31st.—The patient still retains perfect function of his injured limb, but complains of pains in the opposite one similar to that which preceded his fracture of the left patella. These pains he attributes to an irregular action of the knee.

May 12, 1887.—The fractured patella is one-fourth of an inch longer than its fellow. There is no sulcus between the fragments. The ligament is firm. The lower edge of the fractured patella is about three-eighths of an inch nearer the tubercle of the tibia than the unbroken one. The thigh on the injured side is half an inch smaller round than the sound one.

February 10, 1890.—The patient has been constantly

at his work. There has been no change in the broken patella. The joint shows no weakness and never troubles him; functions perfect.

Remarks.—Had there been a good means of holding the fragments together after the operation, the chances of bony union would have been good. The absence of pain in the needling indicated that pain from an attack of the needle upon the tissues would show that a wrong direction had been taken. Twenty days after operation the patella upon gentle handling moved as a whole, and there was not independent motion between the fragments. The ligament did not stretch as complete flexion was gained. The weakness in the joint, due to slack in the medium of extension, disappeared under shortening of the ligamentum patellæ.

Case XV.—Simple fracture of the patella; subcutaneous lifting of the infolded fibrous tissue on the thirteenth day; failure to effect strong ligamentous union through faculty technique of the operation and imperfect retentive apparel. Operation of wiring eleven weeks after injury; tilting of lower fragment; infolded fibrous tissue; adhesions in the joint; inability to bring the fragments in apposition; firm ligamentous union without suppuration; ultimate recovery of full power of extension with nearly perfect flexion without stretching of the ligamentous union.

A. S——, aged thirty-eight, German laborer, was admitted into Bellevue Hospital, August 7, 1886. On the day of admission the patient fell on the wet deck of a steamer, striking on the left knee, which was flexed at the time. On admission the knee is somewhat swollen. There is a transverse fracture of the left patella at the junction of the lower and middle thirds of the bone, with about three-fourths of an inch of separation of the fragments, which can be brought together without crepitus. The limb is bandaged to a posterior splint and an ice-cap is applied to the knee.

August 19th.—The knee is somewhat swollen and ecchymosed. The fragments, which are freely movable, can be brought together, but give no crepitus.

August 20th.—The fragments when rubbed together fail to yield crepitus. The knee-joint has been considerably reduced in size by bandaging, the knee having been first wrapped in cotton batting.

Operation.—The bent needle was introduced opposite the interval of separation on the outer side of the joint, and the fractured surface of the lower fragment was easily reached and scratched without any pain. The needle was then directed to the upper fragment and its fractured surface operated upon. This manipulation caused a moderate amount of pain and swelling of the joint and reddening of the skin over the anterior aspect of the knee. After less than ten minutes of manipulation the needle was withdrawn. Venous blood oozed freely from the needle-hole, but was checked by an iodoform compress. The fragments, when rubbed together, produced bony crepitus. No special efforts were made to hold the fragments together after they had been operated upon till permanent fixation apparatus was adjusted. Then a pad of lint was placed below the lower and one above the upper, and by means of strips of adhesive plaster diagonally applied the fragments were held in position. A posterior splint was applied, the turns of the bandage being made to act upon the fragments by embracing them in a figure of 8, leaving the anterior aspect of the patella free.

August 21st.—Skin over the patella is somewhat reddened. There is some heat and pain in the joint, which remains swollen.

August 22d.—Swelling of the joint diminishing; no pain.

August 24th.—Swelling has diminished very much; a new bandage is applied over the old one, which has become loosened, the region over the patella anteriorly being left free.

August 28th.—As the swelling has receded new bandages have been tightly applied over the old ones.

August 30th.—Another bandage applied over those already upon the knee, the region of the patella anteriorly being left exposed.

September 3d.—Outer bandage removed and re-applied.

September 4th.—The bandage was so tightly applied as to cause considerable swelling of the exposed portion of the knee. Cotton batting was wrapped about the knee, which was then bandaged.

September 17th.—All bandages were removed. The patella fragments are laterally easily movable independently and are separated about half an inch, the separation being greater on the outer than the inner side. There is no sulcus anteriorly between the fragments. The limb was placed on a posterior splint.

November 1.—Under passive motion, which was carefully begun six weeks after the operation, the ligamentous union has perceptibly stretched, although motion has not been made through more than twenty degrees. For the past week the fragments have been brought together by means of pieces of adhesive plaster fastened to the anterior surface of the leg and thigh and buckled together. When this appliance is removed the fragments remain about three-fourths of an inch apart. The tissues about the knee are much infiltrated.

Operation.—To-day the knee-joint was opened by the usual transverse incision, under continuous irrigation with 1 to 4,000 bichloride of mercury solution. The incision being deepened encountered thickened fibrous tissue extending between the upper surfaces of the fragments but not between their broken bony surfaces. This tissue being cut through the lower fragment came into view. It was so tilted that its fractured surface looked directly forward, its cartilage presenting toward the upper fragment. The superficial bony edge of this fragment was found somewhat encroached upon by fibrous tissue, which was then pushed off by a sharp spoon. The fractured surface of the upper fragment was not tilted, but was partly covered with infolded tissue and granulations. The extension to approximate the fragments seemed to have acted upon the overlying fibrous tissues rather than upon the bone itself, leaving the upper fragment when exposed at the bottom of a cup of fibrous tissue. A distinct membrane extended from the lower edge of the upper fragment to the anterior aspect of the femur, partitioning off the synovial pouch. The end of the large probe being passed behind this membrane at the outer side of the joint, could be freely swept about in the synovial pouch, which was of normal dimensions and without other adhesions. An incision for drainage was made in the usual location. Strongly adherent fibrous tissue encroaching upon the fractured surface of the upper fragment was peeled off, and a dense layer of underlying bone was cut away with the Hebra's scoop till the cancellous structure was reached. Upon the fractured surface of the lower fragment there was less infolded fibrous tissue, and the surface of the bone had not become dense but retained its spongy structure. The upper fragment was drilled in the usual way. As the lower fragment could not be drilled without considerable dissection on account of the thickened and inelastic soft parts, the drill was carried through all the covering soft parts and then through the bone. The end of the wire having been drawn through the lower fragment and soft parts the drill was entered at the place of emergence of the wire and carried superficially to the bone along the destined course of the wire. By means of a loop of silk drawn along the path of the drill the wire was pulled into proper position. The fragments could be brought together only by their lower edges, and the wire was twisted, leaving them separated by an interval of about half an inch at their upper edges. This difficulty of adjustment was due in great measure to the tilting of the lower fragment and the general rigidity of all the soft parts. The twisted wire was cut short. The fibrous structures anterior to the wired fragments were sewed together with continuous catgut suture, and the skin wound closed by interrupted silk sutures. In ad-

dition to the insertion of a drainage-tube at the place of election, the dependent angles of the wound were left quite open for drainage.

November 6th.—The drainage-tube was removed through an opening made in the outer side of the dressings.

November 16th.—The dressings were removed for the first time. There is union of the wound by first intention except at the angles, which are filled with healthy granulations. The interrupted sutures were removed. The temperature has been normal since the fourth day after the operation.

December 24th.—The posterior splint is used only at night and removed during the day. The patient practises motion in the joint without lifting the heel from the bed. There is some œdema about the joint.

January 7, 1887.—The patient is out of bed and has motion to twenty degrees.

January 17th.— Motion to forty-five degrees.

January 25th.—The splint is removed altogether.

March 1st.—To-day the patient was discharged from the hospital. He has acquired motion to nearly a right angle without any further separation of the fragments. He has good power of extending the limb horizontally. The range of flexion is daily increasing. The tissues about the knee are quite supple. There is still some œdema of the leg.

November 4th.—The patient has had no accident to the patella since the last note. He has recently been in the hospital for the treatment of a varicose ulcer on the left leg. The fragments of the fractured patella are separated three-fourths of an inch, and are independently freely movable laterally. They are united by a strong ligament, the upper surface of which is flush with the upper surface of the fragments. The wire cannot be felt, nor has its presence caused irritation. The lower edge of the lower fragment is three-fourths of an inch nearer the tubercle of the tibia than the corresponding edge of the opposite one. The thighs above the knees have the same circumference. There is complete power of extension of the limb in a horizontal line, although the leg is weighted with œdema. It can be flexed past a right angle to very nearly the extent of the opposite one. The patient can kneel upon the floor. The joint has never given way since the operation. With the hand upon the patella, a grating sensation can be felt when the leg is flexed.

Remarks.—In this operation I worked upon the thought that blood collecting in the joint would float the loosened fibrous tissue and hold it clear from the broken surfaces of the bones. It was inefficient. The length of time after the accident gave to the infolded structure a rigidity that was unfavorable to success. Four weeks after the subcutaneous operation, the fragments were freely movable laterally upon one another, and the ligamentous union was very extensile. The tilting of the lower fragment and the adhesion of the upper fragment to the femur were due to the retaining bandages. When by the open method the fragments were denuded of infolded tissue upon their broken surfaces, the ligamentous union, as in Case I., was firm and inextensile, with consequent perfect extension and nearly perfect flexion ; this function being gained in spite of the undisturbed adhesion of the upper fragment found at the time of operation.

Case XVI.—A. E. F——, aged fifty-two, on October 14, 1888, while climbing over a stone wall fell and struck upon his left knee and as he rolled over and over felt the patella part. The knee was much swollen after the accident. A few days later I saw him in consultation with his physician, Dr. Sarah E. Post. The knee was very much swollen, but a transverse fracture of the patella at its middle could be made out. The patient was very weak, being unable to sit up in bed on account of contusions of the body. Although no fracture of the rib could be detected a spot of inflammation at the base of the right lung was diagnosed. His expectoration was tinged with blood, the urine contained sugar, and his general condition forbade the use of an anæsthetic or the performance of an important operation. He was very anxious to have the broken patella wired, but I declined to operate and proposed as a substitute the subcutaneous procedure, which was accepted.

To overcome some of the obstacles I had met with in the other operations of this character, especially the annoyance of blood accumulating in the joint, I planned to operate somewhat differently than heretofore.

Operation, two weeks after the accident.—All the preparations were as antiseptically made as for the open operation of suture. The knee-joint was still distended and the surrounding tissues swollen. After elevation of the limb a rubber bandage was applied about the region of the joint, leaving free its anterior aspect and a sufficient field for operation. The turns of the bandage were fastened at the lower third of the thigh. About twenty minims of a four per cent. solution of cocaine were hypodermically injected upon the fibrous tissue at the middle of the edge of the upper fragment. A small trocar and cannula were introduced into the joint, at its outer side, between the fragments. Although the joint was partially under elastic compression, only a small amount of bloody serum and no clot came through the cannula. With a very small and narrow-bladed tenotome I pierced the skin just above the lower edge of the upper fragment and tried to split to the bone in the median line any fibrous tissue that might be infolded over the upper fragment. Without withdrawing the blade a firm incision to the bone was in like manner made through any fibrous tissue that might overlie the lower fragment. Through the very slight opening in the skin oozed about one ounce of dark semi-solid clot upon the withdrawal of the knife. Through the cannula was now passed the straight stylet shown in Fig. 5. The end of which was so grooved as to form three teeth (shown in the end view at *b*), by means of which it could in any position bite upon the infolded fibrous tissue. The end was squared on its face, so as to give a good surface for pushing. After trying to free the broken surfaces of infolded tissue, the openings made by the knife and trocar were stopped with iodoform gauze compresses, and the fragments, from which upon friction together some crepitus was now obtainable, were held together by strips of adhesive plaster. An antiseptic dressing was applied about the knee-joint and the limb was bandaged to a posterior splint. The carrying out of the details of the operation was bothersome and in the aggregate consumed a good deal of time. The patient complained of considerable pain from the prolonged constriction of the elastic bandage. After the operation there was some oozing into the dressings from the tenotome cut. There was no reaction in the joint of any importance.

Fig. 5.

At the end of four weeks, when the splint was removed, the fragments were found about one-fourth or three-eighths of an inch apart, as well as could be judged through the somewhat œdematous tissues. While the fragments were laterally independently movable yet there was enough resistance to lead me to predict that the ligamentous union would be a serviceable one. No motion was begun till two months after the operation. Then the tissues about the joint were still much swollen. As the œdema in the limb, which on account of the patient's feeble general condition was persistent, gradually subsided, he increased his efforts to move the joint.

Sixteen months after the injury, upon examination there is found a firm ligamentous union one-half inch long. According to the patient's statement, and he is an intelligent man, and my own observation, the ligament has not stretched as motion has been gained in the joint. The lateral motion of the patella is not quite so free as that of its fellow. There is complete power of extension

and flexion through fifty degrees. He is still gaining slowly in the power of flexion. There is yet, after standing much, some œdema about the knee and ankle.

From the cases in which I have tried the operation the conclusion seems justifiable that with the bent needle the chance is increased of producing a strong inextensile ligament by subcutaneously lifting the infolded tissues. The procedure requires more skill than would be first imagined. Its successful range of application is limited by a number of conditions. It is impossible for the most sensitive hand to tell by means of the needle the exact state of the interior of the joint as regards the infolded tissue. It may be so wrapped over the surface of a fragment, as in Case No. IV., or otherwise so peculiarly disposed, that it would be impossible to extrude it from between the fragments. The combination of conditions favorable to success are: Absence of swelling in the joint; no comminution of the fragments; a simple and usual infolding of the tissue, and early operation before the torn structures have become rigid in a shape unfavorable to their mechanical displacement; to which may be added the feasibility of successfully holding the fragments together after the operation.

On the other hand, the narrated cases of the operation, I think, support the proposition that the infolded tissues are an important disturbing factor in the formation of the ligamentous union as regards its extensibility.

Among the instances of suturing the patella narrated in this paper, which comprises all my cases, there has not been one case of suppuration or other septic mishap. Most of the operations were conducted in hospital wards known to be infected; where, before the use of antiseptics, pyæmia was very prevalent, and where the walls have still a poisonous influence, as was shown during the period of these operations, through occasional lapses in antiseptic treatment.

The instances of the operation are sufficiently numerous, and the septic influence of the surroundings of such proven intensity to warrant the inference that the freedom from suppuration, or any septic complication whatever, was due to the definite group of conditions described as antiseptic measures. This inference is further strengthened by the very strong presumption in its favor, drawn from a consideration of the favorable influence of antiseptic conditions upon the results in the treatment of other wounds, especially in the wards of Bellevue Hospital.

The instances of successful suturing of recent simple fractures of the patella in hospital practice have now become so numerous that they, as it appears to me, justify the conclusion that antiseptic measures are competent in all cases of the operation to prevent septic complications that endanger the limb or life of the patient.

Since opinion of the safety of the operation has been unfavorably affected by instances of septic mishaps, especially when they have occurred in the hands of surgeons of repute, it is proper to examine the logical force of such cases in limitation or denial of the conclusion advanced. To have logical force each case must be regarded, at least by implication, as a denial that in that specific instance and others of like kind, a fortunate result would have followed under those conditions prescribed as necessary to success. It is an endeavor to prove the existence of exceptions in which antiseptic measures are ineffectual to avert sepsis. The difficulties of the proof are obvious. How are the exceptions to be defined? The range of constitutional and local conditions included in the successful instances is so exhaustive as to remove distinctive marks for definition. It is to be noted that a single successful instance in an asserted class of exceptions, destroys the denial which it is sought to prove regarding that class. The formation of a group of exceptions presupposes that not only have certain antiseptic measures been inoperative in those instances, but, further, that the antiseptic measures effectual against the strongest exposure to infection would have failed. Till these conditions of disproof are fulfilled it is safe to assert, in view of the many successful instances of the operation, that the mishaps have not been due to the existence of any actual exceptions to the favorable influence of the antiseptic measures, but rather to defective application of those means, or, in other words, to the accidental substitution of other conditions for those of antiseptic power. The failure, then, is not in the antiseptic method itself but in its application, and this is a defect in skill, and skill is a personal factor. I have known of an authority upon the subject, in the application of a simple apparel to a simple fracture, causing the death of his patient. This was due to a lapse in skill, and is no argument against the skilful application of splints. In the non-operative treatment of this very injury most serious accidents have sometimes followed the use of comparatively simple apparel, but this is no argument against the skilful and proper use of such appliances. Of the danger attending the substitution, accidentally or wilfully, of other conditions for those antiseptic measures of proven efficiency, especially in the face of strong liability of infection, there can be no question. While it is safe to suture the broken patella under the conditions that have been detailed it is highly dangerous to break down the guard against sepsis by failing to control the realization of those conditions. The argument to be drawn from the failures of antisepsis in the operation is against defective skill, and emphasizes the importance of the personal factor in insuring safety. I am quite sure that I have been present at operations when the factor of safety has been a small one, and the continuous irrigation with an effective antiseptic solution prevented the failure of the operation.

There remain for consideration certain accidents that may be connected with the method. There may be danger from the anæsthetic one of the elements of the operative procedure. Patients to whom it would be dangerous to give an anæsthetic should be excluded, or perhaps the operation might be performed with some substitute for the ether.

There is also a rare condition of irritability of the tissues in debilitated constitutions, wherein, although there may be no sepsis, the soft parts are very reluctant to heal, and resent even the tension of the stitches. In such a patient, while the bones might be wired together, the incised soft parts would certainly have to slowly heal as an open wound. The chances of these accidents, which, indeed, are not accidents but inevitable consequences of constitutional states of the patient, limit somewhat the range of application of the operation.

Most probably in all cases a bichloride solution, even as weak as 1 to 4,000, is sufficiently irritative to cause adhesions in the joint. But, as has been shown, these adhesions under intelligent treatment of the joint are not incompatible with the restoration of full function.

While the wire suture properly placed remains perfectly quiescent and without deleterious effect upon the bone, yet the use of the metallic suture is attended with a risk in case of a refracture of the bone and loosening of the suture. Then the patient would be committed to another operation, and perhaps under adverse circumstances. This risk, which is peculiar to the retained wire suture, can be eliminated by the early removal of the wire, or, what is better, by the use of a soft or absorbable suture, instead.

The liability of refracture after suturing has been shown by two instances. This accident could have been prevented in each had the limit in the range of flexion been controlled by a proper appliance worn by the patient. Refracture before the skin has become supple and while the tender scar is still adherent, exposes the patient to a great risk of the joint being opened by a laceration of the soft parts. This liability, which, though not peculiar to the operative method, is much greater than in the non-operative method, lessens as the soft parts approach their normal condition, and the scar becomes movable.

The internal condition of the joints after simple transverse fracture of the patella, as disclosed by these operations, confirms in the main the original observations of Dr. William MacEwen, of Glasgow, and the conclusion so ably urged by that surgeon, that the obstacle to bony union under non-operative methods of treatment is generally the infolded fringes of fibrous tissue covering more or less completely the broken surfaces of the fragments. No method of treatment that does not accurately recognize and correct this interior condition of the joint can hope with any uniform measure of success to secure bony union of the fragments.

Not only do the infolded fibrous tissues play such an important part in reference to bony union, but it seems to me that they have an important influence in determining the character of the ligamentous union. It will be noted in the narrated instances of ligamentous union, that in proportion as the broken bony surfaces have been freed of intervening structures has the ligament been strong and inextensile. No matter how uniformly a method of treatment holds the fragments in apposition, the presence of this infolded tissue over a variable extent of their broken surfaces is a variable factor that disturbs the uniformity of the results so far as the extensile character of the ligamentous union is concerned.

The suturing of the fragments in cases of recent simple transverse fractures of the patella by the open operation affords an opportunity for exact recognition and rectification of the disturbed interior conditions of the joint. It is an operation (conducted under the definite antiseptic measures detailed as an essential part of the operation) that is practically safe from septic complications. The remote risks attending the permanent wire suture are special to that suture and may be eliminated by using other material. The risks from unfavorable constitutional conditions of the patient are those common to all operations, and may be excluded by limiting the range of applicability of the operation. The risks of refracture are not peculiar to this operation except in the greater liability of the refracture being a compound one, and are probably preventable by a proper protective apparel. In the vast majority of cases bony union can be obtained, and in those cases where the fragments cannot be brought into contact but near together a firm and inextensile ligamentous union can be achieved. The joint is so perfectly reconstructed that in case of refracture the patella stands in the same relation to treatment as in the primary operation and the repeated operation will again restore its function.

Under non-operative methods of treatment bony union is a surgical curiosity. In a hospital experience of nearly twenty years I have seen but one instance of bony union, and that was under circumstances that lend support to the view of the importance of the infolded torn prepatellar structures as an obstacle to bony union. The surgeon attempted to break up a fibrous anchylosis of the knee-joint caused by long confinement in a plaster-of-Paris splint. Upon forced flexion the patella broke transversely at the middle. The limb was extended and immediately encased in a plaster splint. Bony union resulted. The fibrous tissues over the patella had lost their elasticity, and most probably tore in the plane of the bony fracture without infolding. In the vast majority of cases, as is well known, the union is ligamentous, the character of the ligament being determined by unrecognized interior conditions of the joint. Thus it happens that in one instance the ligament is serviceable, in another it stretches and leads to crippling of the limb.

In comparing the results after the operative and non-operative methods it is to be noted that motion in the joint has not the same value throughout the whole range of flexion and extension; thus, flexion and extension of the leg from the line of complete extension is vastly more important through the first forty-five degrees than from that angle through the next forty-five degrees to a right angle with the thigh. This is understood when we reflect that in locomotion, the limb with some motion at the joint becomes an uncertain means of support unless the leg can be so extended as to bring the line of support of the limb very near or anterior to the axis of motion in the joint, thus, as it were, locking the joint while the limb bears the weight of the body. After suture by open operation the integrity of the mechanism of extension is restored, and there is no loss in the power of extension and consequent impairment of the limb as a medium of support. With a ligamentous union it is otherwise. Then there is loss in the power of complete extension in proportion to the length of the ligament, and, at least, a temporary instability of the limb. This weakness is a constant menace in the early weeks of motion to the integrity of the ligamentous union. Later, the slack in the tissues through which extension is exerted is taken up more or less completely by the shortening of the ligamentum patellæ, and perhaps also, in part, by an accommodative action of the great extensor muscle acting in part through hypertrophied lateral fibres of its aponeurotic expansion.

The comparative value of the function of the joint after the operative and non-operative treatment is best shown by a comparison of the functional possibilities of the joints rather than by a study of the events in their subsequent functional histories. Thus, an accident potentially present in a weak joint may not be displayed till called forth by circumstances years later, as in the case of M. C——, who, in 1871, was treated in Bellevue Hospital for simple transverse fracture of the right patella by an approved non-operative method. There resulted a weak ligament, which stretched under flexion of the leg till the limb became so crippled that the patient was obliged to abandon his occupation as a longshoreman, and, in 1885, fourteen years later, it was the cause of a fall in which he broke the tibia and fibula, two inches and a half above the ankle-joint.

After open operation and suture, in a short time and with certainty, the joint is restored to its former function in at least its most important elements A limitation to the range of motion is in that of flexion, and for this the patients themselves are generally responsible. They are so well satisfied to walk securely and gain the range of motion demanded by the ordinary affairs of life, that they sometimes fail to appreciate the necessity of pushing flexion to its full limit, and thereby secure perfect protection from an accident due even to the slightest incapacity of the joint.

If a ligamentous union stretches to that extent that the slack in the mechanism of extension cannot be taken up, then there is permanent crippling of the limb, consequent limitation of function, and liability to accidents.

It is the duty of the surgeon, I conceive, according to his ability, to treat his patient by that method which yields the best results. The value of a method of treatment is not to be determined by reference to the fluctuating standard of professional opinion, but by the comparison of the results of treatment to a single and invariable standard of perfection. The standard I have had in mind, in comparing the results of the operative and non-operative methods, has been the restoration of the function of the injured joint in the shortest time. From the comparison of the results obtained by the two methods, I therefore believe it to be the duty of the surgeon, in a case of recent simple transverse fracture of the patella (adequate skill being granted, and subject to the qualifications already expressed), to open the joint, and suture the broken fragments, unless he can insure his patient a good result by the non-operative method, with freedom from crippling of the limb and the other disabilities potentially belonging to an imperfectly reconstructed knee-joint.

The non-operative method of treatment, it appears to me, should be restricted to those cases of fracture in which there can be obtained either bony union or a short inextensile ligamentous union. The interior conditions of the joint essential to the production of this result are present in only a small minority of cases. To extend the ap-

plication of this method beyond these limits is to violate that principle which I have premised should govern the conduct of the surgeon. From this point of view, it is of paramount importance to be able to foretell what will be the character of the ligamentous union.

Upon *a priori* grounds, and from a study of the cases of ligamentous union narrated in this paper, it would appear that the early firmness of the ligamentous union affords some criterion of its later character as regards extensibility. It has seemed to me that a test of the independent lateral mobility of the fragments at the end of two or three weeks shows the nature of the forming ligament. When the fragments move as one mass and not freely, independently, the forming bond of union may be surmised to have the attributes of strength and comparative inextensibility. In a limited number of cases the subcutaneous lifting of the infolded fibrous tissues may be the means of favorably influencing the character of the ligament. I am aware that this is setting up a test based upon nice discriminations in the sense of touch and not easy of definition. However, it is a line of investigation that, it appears to me, is necessary to be further prosecuted to aid in determining the limits of the range of applicability of the non-operative and, by consequence, of the operative method of treatment.

32 West Thirty-third Street.
March 20, 1890.

INFLAMMATION OF TENON'S CAPSULE AS A RESULT OF INFLUENZA.

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On February 25, 1890, I was asked by Dr. C. W. Allen, my colleague at the Eastern Dispensary, to see a patient with him, whose right visual organ was the seat of an inflammatory affection of unusual severity. The case was that of a young man, twenty-three years of age, born in New York City, of German parentage, who lived in an East side down-town tenement house, surrounded by unhygienic conditions, and who had been a sufferer from pulmonary consumption for a considerable space of time. We found the patient sitting up in a chair. His left eye was normal in every respect. The upper eyelid of the right eye was red and very much swollen. The swelling extended beyond the eyebrow and was most prominent upon the temporal side. The lower lid was also red and swollen but not so markedly as the upper. The conjunctiva was in a state of intense chemosis, the mucous membrane covering the globe being raised in fleshy and hyperæmic folds which protruded like polypoid excrescences between the lids and prevented their closure. The globe of this eye was slightly, but unmistakably, more prominent than its fellow. The cornea was clear, the pupil rather dilated and not responsive to light. The iris was discolored and dull. On ophthalmoscopic examination a red reflex could be obtained from all parts of the background, but no details could be made out, on account of the haziness of the vitreous body, except that the borders of the optic disk seemed not well defined. With this eye the patient could only distinguish light and dark, but could not even count fingers.

On testing the motility of the eyeball, it was found that, while the left globe moved freely in every direction, the right globe did not accompany it in its movements, but remained almost stationary. No movement at all could be produced in the upward direction, and the excursions inward, outward, and downward were quite inconspicuous.

To judge from the general behavior of the patient, the amount of distress occasioned by the deep-seated inflammatory action causing the symptoms just detailed was by far not so severe as one would have expected under the circumstances.

These symptoms were caused by an inflammation of Tenon's capsule, a structure bearing somewhat similar relations to the globe of the eye as the tunica vaginalis bears to the testicle. This capsule is opened and entered into with instruments every time when a tenotomy is performed for strabismus, and, in pre-antiseptic times at least, such tenotomy has sometimes been followed by an unwelcome attack of tenonitis, an accident not at all dreaded any more nowadays by antiseptic operators. No tenotomy or other operation had been performed in the case of our patient, nor was there a history of traumatism of any sort. There were no signs pointing to a carious affection of the bones of the orbit, especially no symptoms indicative of disease of the nasal fossæ. The irido-choroiditis present at the time of our examination—as evinced by the color of the iris, the immobility of the pupil, and the haziness of the vitreous—was evidently not the primary trouble, as the patient never had any trouble with his eye before the present attack, and the very onset of this attack, according to the statement of the patient, had been characterized by the extreme swelling of the adnexa of the globe.

The inflammation of Tenon's capsule present was evidently of the more severe or suppurative variety. No distant focus could be detected which could have caused the mischief by metastatic infection, unless we sought for such a source in the diseased lungs. As a matter of fact not a single case has as yet been recorded in which tenonitis had been caused by tuberculosis, so that this causative element could not seriously be thought of. The patient could not give a history of severe exposure either. For the reasons enumerated we were compelled to leave the question of etiology in abeyance.

The necessity of operative interference being imminent and the domestic surroundings of the patient very unfavorable for successfully carrying out surgical procedures, he was provided with a permit for admission to one of the city hospitals. However, he never turned up at the hospital to which he was sent, and I did not hear of him for a considerable space of time.

On May 1, 1890, I received a reprint of a paper on "Tenonitis after Influenza," by Professor Ernst Fuchs, of Vienna,[1] which the courteous author had sent me and which threw considerable light on a subject which heretofore had been aggravatingly dark to me. Fuchs here describes four cases of tenonitis, one of which led to suppuration and the destruction of the power of vision, while the other three were of a sero-plastic nature and ended with perfect recovery. All of these cases were observed by him during the recent epidemic of influenza.

On May 5th I paid a visit to the home of Adam G——, the patient whom I had seen with Dr. Allen. I found him in bed and his general appearance bore evidence that his pulmonary complaint had been making rapid progress since I had first seen him. Upon being questioned, the patient and his family averred that toward the end of December he had had an attack of the grip. It must be here confessed that neither Dr. Allen nor myself had thought of inquiring about this point at the time of our common visit. The trouble with the right eye had begun in the earlier part of January. He did not go to the hospital to which he had been directed. A few days after we had seen him, and after he had diligently poulticed the eye, he repaired to the office of a down-town practitioner who made an incision above the eyebrow, but the swelling did not subside. A short time after this the patient did go to a hospital, but not the one to which he had been directed. Here he was etherized and incision made below the eyebrow, which gave exit to a considerable amount of pus. He left the hospital after a week's stay. I saw the scars caused by the two incisions spoken of, which had healed perfectly. The dimensions of both the upper and lower lids of the affected eye were nearly normal. There was still some chemosis of the lower

[1] Wiener klin. Wochenschr., 1890, No. 11.

part of the conjunctiva, causing an ectropion of the lower lid. The rest of the conjunctiva was nearly normal. The lower part of the cornea was the seat of an extensive opacity which involved only the superficial layers. The iris was somewhat more dull and discolored than at my first visit. The pupil was large and immovable. A certain degree of exophthalmos was still noticeable, and the great impairment of the mobility of the eyeball noted over two months ago was still present, the excursions of the globe being perhaps a trifle more extensive. On illuminating the background with the ophthalmoscope some filiform posterior synechiæ became visible. A red reflex could still be obtained from all parts of the fundus, but no details could be made out. This examination was greatly interfered with by the opacity of the lower part of the cornea. The use of a mydriatic was not permitted by the patient. He could distinguish light from dark and could count fingers at the distance of one foot only.

The history of a preceding attack of influenza, though only given by the patient himself and his family and not confirmed by medical observation, is the only tangible etiological factor in this case. I might say here that the patient himself did not surmise any connection between his attack of the grip and the subsequent inflammation of his eye.

In two of Professor Fuchs' cases, the suppurative one and one of the three non-suppurative cases, there was a distinct history of influenza. The two other non-suppurative cases gave no such history, but Fuchs nevertheless does not hesitate to describe them as an effect of this epidemic disease, because primary, non-traumatic tenonitis is otherwise an extremely rare affection and there was no other way to account for the crowding of such a considerable number in a surprisingly short space of time, and this just the time of the prevalence of the grip.

In the single case of Professor Fuchs which led to suppuration, the pneumococcus of Fraenkel and Weichselbaum could be cultivated from the secretions.

Since the above was written, through inquiries made at the hospital, it was learned that at the time the incision was performed there was great swelling of the parts and considerable protrusion of the globe. Though pus was expected and searched for, none was encountered. The swelling and the protrusion of the globe subsided rapidly in consequence of the incision.

The first of the three non-suppurative cases reported by Fuchs bears a striking resemblance to the one detailed above. Fuchs surmised beginning phlegmon of the orbital cellular tissue or retrobular abscess, and made an incision through the upper lid, penetrating between the roof of the orbital cavity and the globe of the eye as far as the posterior portion of the orbit, but no pus was forthcoming. The patient recovered rapidly and without loss of vision.

There is an essential difference between the case observed by myself and the three non-suppurative cases of Professor Fuchs, inasmuch as in none of the latter did the intra-ocular tissues become affected in any way.

130 East Fifty-ninth Street.

A Valuable Remedy for Brain-workers.—We have received several inquiries concerning a much advertised secret remedy which has found great favor among the clergy in the West, possibly because they have a percentage on all the custom which they can bring to the "professor." The remedy is sent, on the receipt of a pledge of secrecy, to anyone for the trifling sum of $10, $6 of which is given to the clergyman who secures the order. Sometimes it is the clergyman himself who is sold. A correspondent of the *Medical Standard* says that the remedy is nothing more or less than a daily enema of two gallons of water, "persistence in which," the accompanying pamphlet says, will remove the microbes of the intestinal tract from the stomach down."

STERILIZATION OF WATER.

By CHARLES G. CURRIER, M.D.,
NEW YORK.

As practical physicians we are constantly encountering more or less serious forms of disease that we feel justified in ascribing to the pernicious influence of bacteria, conveyed by and for a long time remaining actively alive in drinking-water. A sufficient number of reliable laboratory experiments bears us out in this view, and the instances where the cause of various attacks of typhoid, cholera and less severe diarrhœal disorders lay in the use of infected waters would make an unpleasantly long list. The lessons derived from one epidemic do not stay the next one as effectively as we could hope; yet when such a danger has directly shown itself, the laity are for the moment ready to have its portent revealed to them. So it behooves us as practitioners to know just what we should counsel in order to insure the arrest, if we are not allowed to cause the prevention, of such seemingly inexcusable epidemics as the recent one of typhoid at Cumberland on the Potomac. Although the truth is gradually gaining currency that it is in general safest to consume water and milk like other foods, after—rather than before—cooking them, still most persons regard water when cooked as less palatable than before the process has taken place, and adopt various other means to secure immunity from the diseases which impure water can unquestionably carry with it. To insure the desired result we must, as I have elsewhere shown at greater length, rely upon high temperatures. Even the familiar employment of carbonic acid gas does not render water from an impure source safe unless—as part of the process—the water has been adequately purified, and for this I would only advise heating. In continuing, during the past year, my examinations of numerous samples of different carbonated waters from various sources, I have repeatedly observed that some kinds of bacteria could actually increase to a certain degree in water charged with carbonic acid gas under a pressure of over one hundred pounds to the square inch. As for the original bacteria (whether harmless or harmful) in such "soda-waters," they tend to die off more rapidly when the gaseous element is present under the usual conditions than when these germs are in simple water. Thus the process affords some advantages; but the action is too slow and uncertain to allow us to recommend the use of an impure water which has simply been charged with some salts and with the gas.

The presence of a small proportion of alcohol, or of certain other chemicals, may arrest the development of some varieties of micro-organisms; but they are an unsafe reliance, as in any reasonable strength they do not destroy bacteria sufficiently to warrant their use in preference to the employment of heat.

While testing samples of water sent from various regions, I had—as a matter of separate interest—for some time been accustomed to make experiments to determine the number of minutes required of exposure to the heat of boiling water, in order to sterilize the very different natural waters which reached me for examination. In a paper, which appeared in the *Medical News* of April 20 and 27, 1889, the then results were given as ground for stating that boiling, for even less than a quarter of an hour, could be regarded as sufficient, even if the water were from an infected supply.

The interesting articles of fleet-surgeon Globig and others led me to surmise, however, that possibly the various kinds of bacteria found in the natural waters of this continent, or such species as (in the laboratory) were experimentally introduced because of their reputed great vitality, offered less resistance to the influence of the heat of boiling than did the bacteria procurable in and near the Hygienic Institute in Berlin. Accordingly, last summer, by the great kindness and courtesy of Privycouncillor Professor Koch, and of Dr. C. Fraenkel, I availed myself of the facilities of their laboratories and pursued

a series of experiments with materials, supplies, and facilities quite like those previously employed in the same place and at the same time of the year by Dr. Globig. By his courtesy, I also received from him some of his most resistant bacilli.

Previous to, and in general since my Berlin experiments, my usage has been, after testing it cold, to heat the test-water in a number of sterilized, plugged Erlenmeyer flasks. At definite intervals, single ones of these were, by threads, rapidly removed from the steam-sterilizer in which they were being heated. Then samples were at once tested, as also after the lapse of several hours and again after several days. If, within a week, no colonies appeared in the nutrient gelatine of the plates and roll-tubes to which the water had been added, the sample was pronounced sterilized. The bacilli of tuberculosis never grew on the gelatine, and the usual animal inoculations were required to determine their presence. For the tests made in Berlin, the water was generally heated in large flasks plugged with cotton and sterilized, then these were suspended in water kept at the uniform temperature of 99° C. to 100° C. (212° F.). At intervals of two minutes a cubic centimetre was carefully removed from the top and lower middle portion of the contents of the flask, and at once added to warmed gelatine which was then spread on a cool surface.

My earliest tests were, as I have said, of clear natural waters from hydrants and other supplies. Finding that a very few minutes of steam heat sufficed to completely sterilize these, harmful and harmless varieties of bacteria were added from pure cultures, the microscope being employed to determine the presence of spores. To remove sediment, and yet have the micro-organisms remain in the water, it was strained through thin layers of sand, or of absorbent cotton. The prepared water was always tested before heating.

Not enough experiments have been made to determine precisely how the bacillus of tuberculosis changes its character and vitality when present for any time in clear water. It is within the limits of safety, however, to declare that under such circumstances boiling for ten minutes will have sterilized a given water as far as the tubercle bacilli contained in it are concerned. Anthrax spores are generally regarded as the most resistant of the disease-producing bacteria, and these I have by repeated experiments found to succumb, when in clear water, by heating at a steam temperature for five minutes or less. Kitasato has recently stated the same thing concerning the anaërobic germs of symptomatic charbon (*Rauschbrand*). The majority of harmful micro-organisms are much more sensitive, and the pus producing ones are especially so. Thus the typhoid bacilli, like the various pus-cocci, do not survive after the water has been brought to the boiling point or near that, and allowed to cool gradually. Cholera germs are still more sensitive. To render them harmless a momentary exposure to a temperature of 70° C (158° F.) suffices. Hence we may say that if a suspected water be heated at the boiling temperature (or nearly that) for ten minutes, we have allowed more than time enough to insure the destruction of all germs recognized as harmful that may be in it.

From many tests I have been led to believe that the bacteria of ordinary clear hydrant water are likewise destroyed in this same time. When I, last June (1889), stated to Professor Koch that with a clear water containing *B. subtilis* much less time was needed than tradition allowed for them to perish by boiling, he expressed himself as disagreeing with me. His criticism was of course of extreme weight, and caused me to have made many experiments before I now allow myself to assert that, in water which has been strained clear, even though containing much organic matter in solution, the various micro-organisms are usually killed by boiling for even less than fifteen minutes. Some of the natural waters which I tested contained *B. subtilis*.

Finding that heating suppressed thus quickly the many bacteria which throve in water supplied by various hydrants, I added, as I have said, putrefying solutions of meat, earths, vegetables, and other things, which might add bacteria, besides introducing from pure cultures all kinds of resistant and harmful germs, and thus endeavored to produce the worst possible waters. These were strained just sufficiently to remove the sediment and leave the bacteria. With these waters I have usually found that the limit of twenty minutes was rarely passed, except that one long bacillus, such as I have never recognized in our natural waters, withstood the heat for a considerably longer time. Even of these, only a few remained alive after fifteen minutes. A very few solitary ones usually kept alive for from forty-five to sixty minutes, and these seem to me more resistant than the "potato-bacillus" furnished me by Dr. Globig. These long bacilli which I have found so resistant grow somewhat like the various "potato-bacilli." They form a very firm white film on bouillon and nutrient gelatine. This latter medium the colonies gradually liquefy, and are always white, as also is the case in gelatine tube-cultures; but here the liquefaction progresses slowly in the depth, as the growth is typically aërobic. On agar the culture is smooth, yellowish, and not usually spreading. On potato this spreads as a thick, viscid mass of a dingy grayish-yellow color. The average length of the slender bacillus is four to five micromillimetres ($\frac{1}{5000}$ inch), and the ends are rounded except when there are chains (usually containing four individuals). The spores are long-ovoidal and are not at the ends of the bacilli. They often cause a considerable bulging of the wall of the bacillus.

Besides a number of incomplete and preliminary trials, I have carefully conducted fifty-six experiments, at the Carnegie Laboratory and elsewhere, in order to be able to speak with precision. To detail all of these—even in a tabular manner—would show no more than can be learnt from what I have outlined of the process; still I will give a sketch of one of the latter trials as a type of the method employed in all. From a series of tests, colonies of the bacilli described above were found growing on the plates made with the addition of water which had boiled so long as to leave alive none of the other varieties. Then some of these bacilli, from pure cultures of varying ages on different media, and revealing many spores, were added to two litres of impure water having much organic matter in it. The whole was strained through muslin, then tested, and at once agitated and decanted into nine Erlenmeyer flasks, plugged with cotton and sterilized by long exposure to a temperature of 155° C. To the neck of each a thread was attached and then these flasks were all, at the same time, rapidly lowered into a large Arnold steam sterilizer, which, by the combined use of a rose burner and a large Bunsen burner, was maintained at its highest heat. After the introduction of the plugged flasks of cool water into the steamer, it was quickly closed and the time was taken from that moment. By a series of previous tests it had been determined that the micro-organism in question could resist for from thirty-five to sixty minutes at least. So, the flasks were steadily heated for thirty-seven minutes, then one of these was removed so as not to materially affect the heat of the others, of which the last remained at the temperature of 100° C. for one hundred and three minutes in all. In these steaming flasks, the water being at once sampled and added to warm gelatine, and this then poured upon the bottom of glass plates (after Petri's manner), the several thousand germs in each cubic centimetre were found to have diminished in number so that

After boiling for	37	minutes	only	39	were alive.
"	" 48	"	"	23	"
"	" 54	"	"	9	"
"	" 58	"	"	3	"
"	" 68	"	"	3	"
"	" 72	"	none were alive.		
"	" 79	"	"		"
"	" 89	"	"		"
"	" 103	"	"		"

The flasks were allowed to cool gradually. Then samples were tested, after one, seven, and ten days. In the temperature of the laboratory the water retained its heat so long that the bacteria lost their vitality before it became cool, even in the flask steamed for only thirty-seven minutes. In a sample of the original water reserved for comparison they multiplied to a great extent; yet all the waters were kept under precisely the same conditions, except that the sample of the original had not been exposed to heat.

Professor Anagnostakis, of Athens, refers to passages in Hippocrates and Galen to show that among the ancient Greeks pure boiled water, as also that to which salt had been added and then boiled, was valued for cleansing wounds and in surgical operations. We have since their time advanced in knowledge of the process of nature, yet it is interesting to find the same means recommended in the latest communication of a typically skilful modern surgeon, Professor H. Fritsch, of Breslau, who announces that for the most hazardous and delicate operations, conducted, of course, with careful cleanliness, only a 6 to 1,000 solution of common salt is needed for washing wounds, and for the peritoneum this physiological fluid, when sterilized by heating, is preferable to water made sterile by the usual chemicals, as carbolic acid and corrosive sublimate, so much used nowadays for this purpose.

All surgeons must admit the importance of sterilizing the water used to cleanse the exposed surfaces in, for instance, an abdominal operation, where solutions of antiseptic substances are by some considered objectionable. It seems therefore well to know that all germs in the water used are rendered harmless if it has been boiled for an hour before the operation and then allowed to cool.

In a series of solutions of morphine and other alkaloids, steamed for the same time and then kept closed, I have found that they are now perfectly good after standing for over a year, for no micro-organisms remained alive in these, and no new ones have been allowed to enter. In some of these solutions, moreover, grape-sugar, milk-sugar, and albuminous elements were present in abundance.

Although it is considered that the great majority of the numerous bacteria living in the waters supplied by the average hydrants are quite harmless, still every practical bacteriologist appears averse to drinking-waters which he knows to be teeming with bacteria, and when asked to decide between several given waters, would indicate his preference for one from a pure spring (where these low forms of life are at most only very sparsely present), as against the water from a sluggish river or lake draining a thickly populated region (in which water micro-organisms are exceedingly abundant), even though the two waters appear chemically not unlike.

We have no right to theorize that the presence of numerous saprophytic or other bacteria in the alimentary tract facilitates the digestive processes. Far from it. Their activity is very uncertain and unsafe as compared with that of the normal digestive juices. Whoever has put two equal pieces of meat into two flasks, one with serum with many bacteria, and the other having a digestive solution resembling the secretion of the healthy adult stomach, must have been impressed with the fact that the latter effects solution of the meat in a few hours, while the meat in the bacterial solution may have undergone little change after days and weeks. The bacteria, however, will have increased enormously, and have given off great amounts of foul gases and other noxious products.

Those who are doubtful as to whether boiling does not deprive water of elements necessary to perfect nutrition may be assured that such cooked water is eminently wholesome; indeed, by lessening the amount of oxygen and carbonic acid, the process of heating makes the water less liable to take up lead, lime, and other minerals. The objection that heating "devitalizes" it can, of course, be urged against solid foods as well, and seems to be advanced most by those who criticise in a spirit of controversy. When the "vitality" of hydrant- or well-water means the presence of disease-germs, it seems far from being a recommendation. Among our antipodes, as well as in many model families of our own race, the practice of cooking water is prevalent, and, as far as can be learned, the effects seem distinctly salutary rather than otherwise. The absence of the agreeable taste produced by oxygenation seems the chief objection. This is a considerable one, and can be in part remedied by the introduction of a small proportion of teas or agreeable salts; or air can (in a primitive fashion) be introduced by a bellows in the absence of more elaborate apparatus.

Conclusions.—Unless extraordinarily resistant, water becomes sterilized if it be at or near the boiling temperature for fifteen minutes. If the same degree of heat be maintained for five minutes, all harmful micro-organisms will have been destroyed. Still less time serves to destroy the disease-producing varieties which are recognized as liable to occur in water. Thus merely raising to the boiling-point a clear water containing the micro-organisms of malarial disorders, typhoid, cholera, diphtheria, or of suppurative processes, and allowing it to gradually cool, insures the destruction of these germs. They are also destroyed by keeping the water for from a quarter of an hour to half an hour at a temperature of 70° C.

Occasionally, however, very resistant but harmless bacteria may get into water. The brief heating renders them safe for drinking purposes; but when it is desired to destroy every micro-organism that may be present in a contaminated water, it should be heated for one hour and allowed to cool slowly. Then it may be used for cleansing wounds or for alkaloidal solutions which will keep indefinitely if no germs be introduced after the solution has been heated.

Clinical Department.

COMPOUND BELLADONNA LINIMENT IN ACUTE RHEUMATISM.

By JOHN C. BERRY, M.D.,

KIOTO, JAPAN.

I HAVE recently experienced such gratifying results from the use of chloroform and belladonna in acute rheumatism that I am prompted to call attention to its merits as a local remedy in this disease. Its use may have been observed by others, but I find no reference to it in any of our leading text-books.

For some time past I have used belladonna liniment and chloroform—seven to one—applied on spongio-piline, for lumbago, a note in Squire's "Companion to the British Pharmacopœia," in which the author gives his personal experience with the remedy when suffering from this disease, having first recommended it to my notice. Eades, in his "Therapeutic Handbook," refers to this as a new liniment for the United States Pharmacopœia, and mentions its use for muscular rheumatism.

Our Pharmacopœia does not contain the linimentum belladonnæ comp. It is composed of linimentum belladonnæ, seven parts, and chloroformi belladonnæ, one part—chloroformum belladonnæ being made from powdered belladonna root, twenty, and sufficient chloroform to percolate twenty.

To seven parts of this compound belladonna liniment I add from one to two parts of pure chloroform and apply by sprinkling over spongio piline, wrung out of hot water. This is then firmly pressed on the affected joint for five minutes, and renewed once if necessary, following which the joint is wrapped with hot cotton and recovered with oil-silk and bandage.

The nurse and patient in this case, the latter an intelligent gentleman, were instructed in the use of the remedy, thus preventing any loss of time, an application being made as soon as a joint became invaded by the disease. The pain was usually controlled in about fifteen minutes. In case of one joint—a shoulder, where a relapse occurred

—a second application was required, resulting in a blister and immediate cessation of pain.

Thus, though it is usual in such disease to have several joints involved at once, the pain in each lasting from two to four days, there was no time in this illness when a new joint became involved, before the pain in the one last attacked was under control, though the number affected was twelve.

Equally satisfactory was the influence of the remedy in preventing large accumulations of fluid around the joints, and in promoting absorption, none of the joints affected long remaining stiff and painful on motion.

I should perhaps add that over the superficial joints the use of the belladonna was followed by painting with a ten per cent. solution of cocaine in oil; but from the effect of the belladonna on the larger joints I judge the use of the cocaine to have been unnecessary for the control of the more severe pain, though the patient says there was more complete freedom from pain on motion in joints thus treated than in those in joints to which cocaine was not applied.

The advantages of the compound belladonna liniment and chloroform as a topical application are, therefore: 1, It is strongly anodyne; 2, it is a powerful stimulant and revulsive. It therefore performs the work of both anodyne and blister.

No constitutional effects from belladonna were produced during the several applications.

I should add that the general treatment was with laxatives, salicylates, and alkalies, followed by iron, quinine, and electricity.

I shall be interested to learn if the treatment with belladonna and chloroform is followed by such immediate relief in younger patients, my case being nearly fifty-two years of age. The attack, however, was severe.

A CASE OF SOMNOLENCE.

By L. N. SHARP, M.D.,

MINNEAPOLIS, MINN.

On March 3d last I was asked to see an old lady, eighty-two years of age, who had enjoyed good health and carried a considerable amount of flesh. She had an attack, about ten days before, of what I considered the passage of a gall-stone, during which she was cared for by another physician.

When I first saw her she was comfortable, lying in bed, pulse 90, tongue clean, and temperature normal. The following day when I made my visit to her she was sleeping, and as this was quite late in the day, and she had slept all the time since I had seen her the day before, I feared she had been taking some narcotic, but of this there was no other evidence, save sleep. I saw her day after day for three weeks, during which time she continued to sleep day and night, constantly, only when awakened to take some liquid nourishment and then she would, perhaps, partly answer a question and fall into a sweet and apparently pleasant sleep. No abnormal condition appeared present otherwise. When the second week came on I thought she could be aroused more readily, and at the end of the third week she could be kept awake by talking with her for perhaps an hour at a time, in the afternoon only. From this time on she gradually slept less and soon gained strength, her appetite returned, and she was, in a short time, around the house as usual.

During this time of sleep the pulse and temperature remained normal. The urine was voided part of the time without her knowledge, but generally she manifested uneasiness, and her attendants would use the bed-pan. The bowels did not move till about the close of the third week, and then the passage was not formed. She had been freely purged before I saw her. When she came out of her sleep she was impressed that she was in a hospital, and could not reconcile her surroundings with what she was accustomed to, while she had occupied the room in which she had slept for a long time in the house of her daughter. No other delusion or any indication of cerebral trouble was manifest.

Progress of Medical Science.

A New Method of Artificial Respiration.—Dr. Andrew H. Smith, of this city, writing in the *Virginia Medical Monthly* for April, 1890, describes an improved method of performing artificial respiration. Two persons are required. The patient lying on the back, and, if possible, placed upon a table, one operaror at the head takes a hand in each of his and draws the arms directly upward, with a slow and steady pull, continuing the traction until the maximum of thoracic distention is obtained, which will require about three seconds. This accomplished, the traction is relaxed, without, however, attempting to press the arms against the sides. At this moment the other operator, who is kneeling or standing by the side of the patient, presses with both hands forcibly upon the chest in a direction backward and toward the median line, so as to diminish both the depth and the breadth of the lower half of the thorax. This pressure, like the traction, is to be made slowly and steadily, and should be continued until the maximum expiratory result is attained, say two seconds. The pressure is then relaxed, and the traction on the arms follows again immediately. In this way about twelve respiratory movements per minute will be accomplished, under conditions giving the largest excursion of the chest-walls attainable by manual procedure. It will be seen that this is a combination of a part of Sylvester's method with the method of Howard. Sylvester's method is defective, in that it does not provide for efficient compression of the thorax; the position of the operator at the head of the patient making such compression extremely difficult. Howard's plan, on the other hand, does not provide for any expansion of the chest beyond the cadaveric position, and is, upon the whole, much less effective than Sylvesters. A combination of the two, carried out by two person's, secures a very considerable approach to the results of natural respiration, the action of the diaphragm alone being unrepresented. Another very great advantage is the division of labor—either of the other methods being exceedingly fatiguing to the operator.

Coffee Inebriety.—Dr. Mendel, of Berlin, has lately published a clinical study of this neurosis, his observations being made upon the women of the working population in and about Essen. He found large numbers of women who consumed over a pound of coffee in a week, and some men drank considerably more, besides beer and wine. The leading symptoms were profound depression of spirits, and frequent headaches, with imsomnia. A strong dose of coffee would relieve this, for a time, then it would return. The muscles would become weak and trembling, and the hands would tremble when at rest. An increasing aversion to labor and any steady work was noticeable. The heart's action was rapid and irregular and palpitations and a heavy feeling in the precordial region were present. Dyspepsia of an extreme nervous type was also present. Acute rosacea was common in these cases. These symptoms constantly grow worse, and are only relieved by large quantities of coffee, generally of the infusion. In some cases the tincture was used. The victims suffer so seriously that they dare not abandon it for fear of death. Where brandy is taken only temporary relief follows. The face becomes sallow, and the hands and feet cold, and an expression of dread and agony settles over the countenance, only relieved by using strong doses of coffee. In all these cases, acute inflammations are likely to appear any time. An injury of any part of the body is the starting-point for inflammations of an erysipelatous character. Melancholy and hysteria are present in all cases. Coffee inebriates are more common

among the neurasthenics, and are more concealed because the effects of excessive doses of coffee are obscure and largely unknown. Many opium and alcoholic cases have an early history of excessive use of coffee, and are always more degenerate and difficult to treat. A very wide field for future study opens up in this direction.—*The Quarterly Journal of Inebriety*, April, 1890.

The Surgery of the Abdomen, with Some of its Responsibilities.—Dr. Thomas H. Manley, of New York, read a paper with this title before the Section on Neurology and Medical Jurisprudence at the Nashville meeting of the American Medical Association. Abdominal surgery, he said, was until recently an unexplored field. Since Lister's time, however, eminent surgeons and those of mediocre prominence have not scrupled to employ the scalpel very freely, but with very unfavorable results. A reaction has set in, and conservatism in dealing with abdominal injuries is now on the ascendant. In severe ventral traumatisms it is a concern of serious importance whether the case be left to nature's unaided powers, or whether, bearing in mind the obscure nature of all abdominal lesions, one is not justified in making an exploratory incision. From statistics lately collected it is clearly manifest that, in cases of injury due to gunshot and stab wounds of the intestine, the percentage of recoveries is far larger where the *expectant* plan of treatment is resorted to than where the operative procedure is carried out. When we review the processes by which the full functional activity of the injured parts is restored by the *vis medicatrix naturæ*, we shall not be surprised at the results due to the expectant or non-interfering plan. Shock results after injury to the abdominal contents; hemorrhage follows, after the absorption of which inflammation sets in. If the intestinal wound be small, scarcely any of its contents escapes. In gunshot wounds the valvular-like opening is immediately closed by the contraction of the mucous coat and peristalsis is temporarily paralyzed. If the patient survive, inflammation ensues, which is limited in extent. It is necessary as a factor of repair. Laparotomy must be regarded under all circumstances as an operation of the greatest magnitude, notwithstanding the strictest antiseptic precautions. The pump-like action of the diaphragm seriously interferes with primary union in man, and the median incision leaves a tendency to hernia. Permanent recovery has ensued in only one case, where resection of the intestine was resorted to for strangulated hernia in the male; and this was in the practice of Dr. Perwit, of St. Louis. Though anæsthesia and antiseptics have revolutionized surgery, it seems that our progress in dealing with intestinal lesions is not much further advanced than it was a century ago; and this is owing to doubt regarding the nature and extent of these lesions.

Pilocarpine in Chronic Articular Rheumatism.—Dr. Charles Hochalt reports the following case in the *Orvosi Hetilap*, April 27, 1890. Mary Molnar, aged forty-five, cook, was taken sick three years ago with acute articular rheumatism, having previously enjoyed perfect health. She recovered from this attack at the end of four weeks, but there remained an insufficiency of the mitral valve. After the lapse of a year a second attack of rheumatism came on, which left the joints in a painful condition, and finally, the latter became shrunken and entirely motionless. On admission into the hospital the joints presented the following appearance: Elbow-joints anchylosed at right angles, and no active or passive motion detectable. The wrists possess only a trace of passive mobility, while the finger-joints are perfectly stiff and flexed. Both knee-joints are swollen and bent, but capable of passive motion to an angle of sixty degrees. The toes are flexed and motionless. The only joints, however, which show a perceptible change of structure are the elbows, which are enlarged and crepitant. Muriate of pilocarpine in two per cent. solution was used hypodermically at intervals of three or four days, in doses at first of 1 ctgm., later 2 ctgm. The result was most gratifying. During the first few days a change for the better had taken place, and after the tenth day of treatment the patient was able to rise from bed and walk. After the ninth injection the stiffness of the wrists and fingers was relieved, and patient was able to eat and to button her dress. The elbow-joints failed to respond to treatment. The medicine produced copious sweating and salivation, and no untoward action on the heart was observed. The author would recommend further trial of the drug in chronic articular rheumatism.

Electrolysis in the Treatment of Diseases of the Skin.—The following are the conclusions arrived at by Dr. Leviseur, of this city, in an interesting article in the *Monatshefte fur Praktische Dermatologie*, No. 7, 1890: 1. Electrolysis does excellent service in cases of cosmetic operations upon the face. 2. The monopolar method with the negative pole is the easiest of performance and gives the best results. 3. The performance of electrolytic operations should never be entrusted to lay hands, and even the physician should not attempt work of this kind unless he has good instruments and necessary apparatus. 4. In the treatment of malignant neoplasms or those of rapid growth, electrolysis is not powerful enough and is too slow, yet the reports of certain operators in this field, who have been working with improved instruments and after a perfected method, give encouragement for further trials in such cases.

Sudden Removal of Nerve-pressure as a Cause of Pain.—In a paper read before the Mississippi Valley Medical Association (*Lancet*, April 12, 1890), Dr. Edward F. Wells reported two cases in which excruciating pain in the legs followed childbirth. In each instance there had been considerable œdema of the leg, and the pains were found to follow the subsidence of this œdema, and to be greatly relieved by the application of a tight bandage. Dr. Wells believed the pain to have been caused by the rapid subsidence of the œdema and the consequent relaxation of the long-continued pressure upon the nerves of the parts. He cites in support of this view the well-known fact that pain follows the sudden removal of pressure in other parts, as upon the emptying of an over-distended bladder, the unwinding of a constricting bandage, etc. He suggests, furthermore, that the pains experienced by chronic rheumatics and some others before storms and other violent and sudden meteorological changes may be due to rapid withdrawal of the atmospheric pressure exerted upon the body and its contained nerves.

Testing a Suture of the Gastric Wall.—Dr. Meinhard Schmidt, of Cuxhaven, writes in the *Centralblatt für Chirurgie*, No. 14, 1890, that, having lost a patient upon whom he had performed resection of the pylorus, by reason of the escape of liquid matter through the line of sutures, he set about to devise some means of determining whether the sutures were tight or not before closing the abdominal wall. He had inserted the sutures with great care and believed that they were sufficient to hold the edges of the wound in close apposition, but after the death of the patient examination showed a slight separation at one point. He suggests that, in future, a test of the closeness of the sutures be made by introducing a sound attached to a rubber bulb, and filling the stomach with air, the duodenum being compressed in order to prevent the escape of air in that direction. If no air escape it may be assumed that the edges of the wound are in close apposition, and then the operation may be completed.

Chlorodyne Poisoning through the Mother's Milk.—A case is reported in the *Australasian Medical Gazette* of a woman who had recently given birth to twins, and was suckling them both. One evening she took a dose of chlorodyne for the relief of pain, and soon after taking the drug suckled the infants. The children were found the following morning profoundly narcotized, and died before evening.

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New York, June 14, 1890.

THE EDUCATION OF THE EXTERNAL PTERYGOIDS IN STUTTERERS.

THERE are very few things in this age of education which man has not tried to educate. From the trained pig to the moral sense the art of pedagogy has fruitfully applied its resources. The special education of the external pterygoid muscles, however, strikes us as possessing some novelty. This measure has been recently advocated in the *Monthly Homœopathic Review* by Dr. Edward Blake, who thinks it an essential measure in the treatment of "stammering." A careful perusal of Dr. Blake's article leads us to think that, while his treatment may have some practical value, its author possesses a profound ignorance of the general subject upon which he writes. Such a mental condition we have observed before, however, in contributors to current literature, and we shall not let it produce an unwarranted bias against the pedagogic treatment of the external pterygoids, of whose existence, origin, insertion, and functions we retain pleasant reminiscences gained during student days.

Dr. Blake does not mean "stammering," but "stuttering," when he writes about the pterygoids. Stammering is an imperfect articulation of speech sounds, of which lisping, lambdacism, rhotacism, etc., are illustrations; while stuttering is a spasmodic defect in speech of functional origin. Dr. Blake is very much mistaken when he says they are the same thing.

Stuttering being a functional spasmodic disorder, some what of the nature of a habit-chorea, it is not surprising that in these days it should be looked upon as a reflex neurosis, and such, in a measure, is our author's view. Some stutterers, we are told, are unable to protrude the lower jaw owing to defective innervation of the external pterygoids. Charles Kingsley is said to be a case of this kind. These muscles are also the most important agents in grinding, and, when weak, food cannot be perfectly triturated. In consequence the nervous system suffers severely from innutrition! Hence, educate the pterygoids to grind better, and protrude the lower jaw in obedience to expressional or masticatory necessities.

Dr. Blake's treatment is better than his theory, for it includes a sop to modern rhinology, and a proper deference to what sense and experience have shown regarding the education of the power of breathing rightly.

The following is an interesting and useful schedule of the methods applied in one case:

1st. The left hypertrophic rhinitis was removed by means of the electro-cautery.

2d. The peri-Eustachian adenoids were scraped away.

3d. External pterygoid muscles were educated in two ways. (*a*) By direct electric stimulation; (*b*) by appropriate active, passive, and resistant movements. First an electrode was passed up behind the soft palate to the inner aspect of the lower fibres of the external pterygoid muscle, just in front of the Eustachian orifice. A well-wetted disk was then applied over the malar bone of the corresponding side, and a combined current consisting of faradic—gentle secondary, voltaic—1 milliampère gradually raised to 2, using commutator to prevent skin injury, was employed during two minutes at a sitting.

4th. A trained masseuse applied electro-massage to the poorly developed muscles of respiration. *A*, Effleurage slow; *B*, pétrissage firm; *C*, tapottement smart.

5th. With the legs and pelvis supported on a table, the trunk unsupported, the attendant aided the patient in going through all the spinal movements, especially using the dorsal portion of the spine to increase its flexibility—thus adding to the mobility of the ribs at the same time.

6th. The lung capacity was greatly increased by quickly expelling, as far as possible, the residual air by forced expiration through the nearly closed mouth, patient standing with hands grasping some suitable support. Next the head is raised, the shoulders are thrown back, and a very long, very slow inspiration taken through the nose; this ought to take fifty seconds. The air is retained as long as possible, and then suddenly delivered through the mouth and nose. This raised her chest measurement from twenty-seven to twenty-nine inches by the end of January.

7th. She reads very slowly in French, uttering every syllable with equal emphasis, as if she were taking a lesson in Hindustani. French is selected because it is the language *par excellence* in uttering which the use of the lower lip cannot be avoided."

Finally, the state of the skin and the diathesis are properly attended to.

COLLEGIATE EDUCATION AND THE MEDICAL PROFESSION.

THE question of a college education in its relation to business occupations and to the liberal professions is again exciting deep interest. The discussions, at least, show a wide-spread feeling that there is something wrong in the present methods and tendencies of some of our colleges.

The doctor has a special interest in this subject, for these methods, as pursued in some quarters, are tending more and more to take away the possibility of any large proportion of young men going through college before they study medicine.

In a recent address delivered by Dr. D. B. St. J. Roosa, before the Yale Association of Fairfield County, this matter was most forcibly presented, and the difficulties which have been raised by the modern collegiate curriculum logically set forth. There is no combating Dr. Roosa's conclusions, which are substantially in harmony with what we have before presented to readers of the MEDICAL RECORD.

It is desirable for those who are to follow a liberal profession to have a liberal education. It not only broadens the mind, trains the faculties, but gives one larger capacities for enjoying life. Admitting this, however, it is equally true that few prospective doctors can afford to go to a college from which they can only graduate at the age of twenty-two or twenty-three. For they cannot then complete their medical education and get to practice before they are twenty-seven or eight; and they are not earning a living until they are thirty.

It seems to be agreed that a sufficiently liberal education ought to be acquired by the age of twenty, or at the end of the sophomore year in a university like Harvard. At this time special lines of work should be begun, bearing reference to their future calling in life. In other words, as Dr. Roosa puts it, college education should end at twenty, and university education begin at that time. The system which has gradually been evolved at Harvard is utterly unsuited to the great majority of American students. "It is neither fish, flesh, fowl, nor good red-herring," says our lecturer most truthfully; it is too much for a college education, and not enough for a university education.

What shall be done then? We can let our large so-called universities settle it among themselves. There are enough rich people in the country to no doubt support such institutions, if they do not wish to change. But, meanwhile, young men who want to study medicine, or law, or engineering, or go into business, and also go through college, should attend those institutions which are in fact colleges, and which get them through by the time they are twenty years of age.

As a matter of fact this is being done. There are very few Harvard graduates in the Harvard Medical School, whereas in Dartmouth Medical College, for example, nearly one-third of the students are graduates of the Academic Department. We advise young men to get a good, sound, liberal education at a small and a genuine classical college. Many can finish this even before they are twenty. Then they are none too old to start in with their professional studies.

RECENT MEDICAL LEGISLATION FOR THE STATE OF NEW YORK.

The last session of our State Legislature was little less than disastrous so far as the interests of better medical education are concerned. In the first place, a law was passed permitting any person who wishes to matriculate as a medical student, to pass his preliminary examination at any time during his first three years of study. This practically nullifies the law, and permits any man to enter upon the study of medicine without a test of his educational fitness. The law, as it stood before, had some defects which could have been easily remedied. The present amendment totally destroys its force. It was secured, as is well known, through the political influence of the managers of certain medical colleges of this city, and against the wishes and judgment of the medical profession of the State as a whole.

The second piece of pernicious legislation was the enactment of a law establishing three Boards of Medical Examiners. This was done also despite the protests of the vast majority of the medical profession, including even many prominent homœopaths. Several influential daily papers, among them the *Sun*, the *Times*, and *Tribune*, either opposed the law or printed strong and candid statements of the reasons why it should not be enacted.

The final passage of the act is unfortunate and humiliating, for it shows again how little weight the opinions of physicians upon public matters have in political circles.

We trust that next winter there will be concerted action to secure the repeal of the triple board law. Our State and local societies ought to unite vigorously in this matter.

A law was passed providing that physicians who come from another State must pass a qualifying examination before beginning to practise here. This law is a wise and proper one.

News of the Week.

The St. Louis Academy of Medicine sent delegates to the recent meeting of the Missouri State Medical Society, at Excelsior Springs, but they were not recognized, and the Academy feels hurt at the action of the State Society, but it is not known what will be done in regard to it.

A Florida Sanitarium.—A Philadelphia syndicate has purchased a large tract of land on the Gulf coast of Florida, and proposes to establish a sanitarium there. Several physicians of that city are interested in the project.

Alleged Abortionists in St. Louis.—A sensational paper in St. Louis has recently been amusing its readers with columns of accounts of alleged physicians who make their living by fœticide. It asserts that over fifty out of less than seven hundred physicians in that city are engaged regularly in such practice, and that most of the others commit the crime occasionally in consideration of a large fee.

Dr. William Baldwin Linsly, of New York City, died at Pawling, N. Y., June 10th, of heart-failure, after a long struggle with intermittent fever. He was born in this city fifty years ago and was the son of the late Dr. Jared Linsly. He graduated from the New York College of Physicians and Surgeons. He went to the front as surgeon in 1862 and served in the various hospitals throughout the war.

Mississippi Valley Medical Association.—The next annual meeting of this Association will be held at Louisville, Ky., October 8, 1890. A large attendance is expected, and a good time socially and scientifically. The profession of the Mississippi Valley is invited to come and bring their wives, as the ladies always have a good time in Kentucky. Send titles of papers to the Secretary, Dr. E. S. McKee, 57 West Seventh Street, Cincinnati, O., who would also be glad to receive reprints or copies of all papers read at the last meeting, to make the collection as complete as possible.

A Case of Hydrophobia was recently brought to this city and taken to Bellevue Hospital, where the patient died. The victim was a middle-aged man who was bitten by a dog about a month ago. Autopsy has confirmed the diagnosis so far as it could do so, but test-inoculations of rabbits will be made.

Drugs of Uncertain Strength.—Dr. Willis G. Tucker, the analyst of the State Board of Health, has examined sixty-eight samples of drugs collected in May, in Poughkeepsie, Newburg, Rhinebeck, Mattewan, and Fishkill-on-the-Hudson, and of this number thirty-three were deficient in quality, being either of inferior or excessive strength, or articles wrongly sold.

Dr. Edward J. Mealia died on June 5th, at his home in Brooklyn, a victim of the after-effects of an attack of the grip. He was thirty-one years of age, and a graduate from St. Francis Xavier's College, New York. He was also in the Class of '83 in the College of Physicians and Surgeons.

The Fifty-eighth Annual Meeting of the British Medical Association will be held at Birmingham, on Tuesday, Wednesday, Thursday, and Friday, July 29. 30, 31, and August 1, 1890. *President*, C. G. Wheelhouse, F.R.C.S.; *President-elect*, Willoughby Francis Wade, B.A., M.B. An Address in Medicine will be delivered by Sir B. Walter Foster, M.D., M.P.; an Address in Surgery will be delivered by Lawson Tait, F.R.C.S.; an Address in Therapeutics will be delivered by William Henry Broadbent, M.D.

The St. Louis Medical Colleges seem to be prospering. The Marion-Sims College will soon erect a building, the Beaumont Medical College has a building already under way; the College of Physicians and Surgeons has bought a lot and will soon begin to build.

Death of Dr. Charles H. Wilkin.—We regret to announce the death, on June 6th, of another brilliant and promising member of our profession, Dr. Charles H. Wilkin. Strangely enough his death, we are informed, was the result of an appendicitis, the disease which has carried off so many physicians of this city. Dr. Wilkin graduated from the College of Physicians and Surgeons in 1878, and at the time of his death had acquired a large practice.

New Medical College at Chattanooga, Tenn.—The University of the South, Seewanee, Tenn., will establish, in October, at Chattanooga a department of medicine. The outline of the medical department indicates a medical school of the highest character, strict preliminary examinations by the college faculty being held prior to admission, and three full winter courses of lectures being necessarily attended before graduation.

Legacies to the Hospitals of Philadelphia.—By the will of the late George S. Pepper, the following bequests have been made: To the University of Pennsylvania, $60,000, for the endowment of a professorship; Hospital of the University of Pennsylvania, $50,000; Presbyterian Hospital, $50,500; Hospital of the Protestant Episcopal Church, $50,000; Orthopædic Hospital, $25,000; Pennsylvania Hospital, $50,000; Hospital of the Jefferson Medical University, $50,000; Charity Hospital, $25,000; St. Joseph's Hospital, $25,000; Children's Hospital, $25,000; Wells Hospital, $10,000; St. Christopher's Hospital for Children, $25,000; Hospital and Dispensary of St. Clement's Church, $10,000; Children's Hospital, Country Branch, $10,000; Maternity Hospital, $25,000; Northern Dispensary, Southern Dispensary, Philadelphia Dispensary, Howard Dispensary, each $5,000.

The Adirondack Park Association has been permanently organized for the purpose of preserving the "north woods" from further depredations. Dr. Alfred L. Loomis has been elected president, and Dr. Martin Burke, secretary.

The New Hampshire Medical Society will hold its ninety-ninth annual meeting in Concord on Monday and Tuesday, June 16th and 17th.

Another Medical School.—The Nebraska Christian University was established, and opened its first term in Lincoln last autumn. This year it has added a medical school, which will commence its sessions in the coming September.

The Connecticut Medical Society held its ninety-eighth annual meeting in New Haven in the latter part of May. The following officers were elected: *President*, Dr. M. Storrs, of Hartford; *Vice-President*, Dr. C. A. Lindsley, of New Haven; *Treasurer*, Dr. W. W. Knight, of Hartford; *Secretary*, Dr. W. E. Norden.

Boston's Streets.—A petition, signed by over one hundred physicians of Boston, was recently submitted to the city council, protesting against the filthy condition of the streets, and urging immediate remedy before the advent of hot weather.

The Philadelphia Lying-in Charity.—There is some trouble in this institution concerning the appointment of the physician in charge. This is one of the oldest and best-known lying-in hospitals in this country, having been established by Dr. Joseph Warrington in 1828, and incorporated in 1832. The present trouble is the outcome of a long-continued epidemic of puerperal fever which developed in the hospital, and the responsibility for which the resident physician and the physician in charge mutually throw upon each other.

The Kentucky State Dental Association met in Louisville the first week in June. About seventy-five members took part in the meeting.

The Cook County (Ill.) Hospital and the Coroners.—There is loud complaint in the coroner's office, in Chicago, of the actions of those in charge at the county hospital. It is claimed that there is often delay in reporting deaths to the proper authorities, and it is not infrequent, when they are reported, that necessary details are omitted and inquests delayed.

Emergency Hospitals in Chicago.—Steps have been taken in Chicago for the erection and equipment of emergency hospitals in preparation for the world's fair.

The Ulster County (N. Y.) Medical Society held its annual meeting in Kingston on June 3d. The following officers were elected for the ensuing year: *President*, Dr. C. L. Dodge; *Vice-President*, Dr. E. H. Loughran; *Treasurer*, Dr. Jacob Chambers; *Corresponding and Recording Secretary*, Dr. A. A. Stern; *Censors*, Drs. A. H. Mambert, C. W. Crispell, A. H. Palmer, Josiah Hasbrouck, Jr., and Patrick Hayden.

An Anti-Premature Burial Society.—It is said that a number of physicians and laymen are about to organize a society having for its object the prevention of premature burial, an occurrence which the promoters of the organization believe to be more common than is generally supposed.

Physicians Going to Europe.—The passenger lists of all the out-going steamers contain many names of physicians who are going to Europe for the summer, the Berlin Congress being in many cases merely an excuse for the trip.

The Annual Meeting of the Medical Association of Ontario was held in Toronto on June 11th and 12th. Several physicians from this country were present and read papers. The association was founded about ten years ago, and now numbers about six hundred members.

The Memphis City Hospital.—The faculty of the Memphis Hospital Medical College recently submitted a petition to the city council praying that the entire medical management and control of the city hospital be placed in their hands. The council did not seem to appreciate the advantages of the proposition, and refused it by a vote of seven to one.

The Essex District Medical Society and the Census.—A special meeting of this society was held at Newark, N. J., to discuss the circular recently distributed by Dr. Billings. After some discussion the following resolution was unanimously adopted:

Resolved, That neither as contributing to truly scientific and accurate statistical investigation, nor in conformity with the honest ethics of our profession, can we consider it necessary or proper to comply with the request sent to the physicians of the United States by the Census office.

An Unjust Discrimination.—The medical examining board of Washington consists of nine members, appointed by the Governor, three only of whom are regular physicians. At the recent annual meeting of the State Medical Association, held at Spokane Falls, a committee was appointed to draft a communication addressed to Governor Ferry. In this protest it is stated that over seven hundred of the eight hundred practising physicians in the State are regular, yet the profession is in a minority on the board and they pray that a redistribution may be made whereby they may have a pro rata representation in that body.

The Medical Examiners Bill, which passed the New York State Legislature a short time ago, was signed by the Governor on June 6th. The act provides that there shall be three separate boards, one representing the Medical Society of the State of New York, one the Homœopathic Medical Society, and one the Eclectic Medical Society. Each board shall consist of seven members, each of whom is to serve for a term of three years. The power of appointment rests with the board of regents of the University of the State of New York, the appointments however being made from the lists of nominees submitted by each of the three medical societies named, the selection of these nominees being made by majority vote at the annual meetings of the societies. Every person appointed to serve on these boards shall receive a certificate of appointment, and within thirty days after receiving such certificate shall take the required oath. The boards are authorized to take testimony concerning all matters within their jurisdiction, and the presiding officer may issue subpœnas and administer oaths to witnesses. At the first meeting of each board a president and secretary shall be elected. For the purpose of examining applicants for license, each of the boards shall hold one or more meetings in each year, due notice of which shall be made public, at such times and places as may be determined by the board of regents. Each examination shall be under the supervision of an examiner appointed by the board of regents, and who shall not be a member of any board of medical examiners. At the meetings of the board a majority of the members shall constitute a quorum, but the examination may be conducted by a committee of one or more of the members of the board. The several boards of examiners shall submit to the board of regents lists of examination questions in anatomy, physiology, hygiene, chemistry, surgery, obstetrics, pathology, diagnosis, and therapeutics, including practice and materia medica. From this list of questions the board of regents shall select the questions for each examination, and present the same to the candidates by an examiner appointed therefor by the board of regents, "and such questions for each examination shall be so selected as to require the same standard of excellence from all candidates, except that in the department of therapeutics, practice, and materia medica the questions shall be in harmony with the tenets of the school selected by the candidate.

"The examination shall be conducted in writing, and at its close the examiner appointed by the board of regents having supervision thereof, shall forthwith deliver to the board of medical examiners having charge of such examination, or to their duly authorized committee, the questions submitted to, and the answers of, each applicant, and such board of medical examiners, without unnecessary delay, shall transmit to the regents of the university an official report, signed by the president, secretary, and each acting member of said board of examiners, stating the examination average of each candidate in each branch, the general average, and the result of the examination, whether successful or unsuccessful. Said report shall embrace all the examination papers, questions, and answers thereto. All the examination papers so returned shall be kept for reference and inspection among the public records of the university.

"On receiving from either of said boards of medical examiners an official report of the examination of any applicant for license, the said regents shall issue to every applicant who shall have been returned as having successfully passed said examination, and who shall, in their judgment, be duly qualified therefor, a license to practise medicine and surgery in the State of New York. Every license to practise medicine or surgery issued pursuant to the provisions of this act, shall be subscribed by the chancellor and the secretary of the University of the State of New York, by each medical examiner who reported the licentiate as having successfully passed said examinations, and also by those of the regents who examined and approved the credentials of said licentiate upon the application for examination. It shall also have affixed to it, by the person authorized to affix the same, the seal of the university.

"Nothing in this act shall be construed to interfere with or punish commissioned medical officers serving in the Army or Navy of the United States, or in the United States Marine Hospital Service while so commissioned; or anyone while actually serving as a member of the resident medical staff of any legally incorporated hospital; or any legally qualified and registered dentist, exclusively engaged in practising the art of dentistry; or interfere with manufacturers of artificial eyes, limbs, or orthopedical instruments or trusses of any kind from fitting such instruments on persons in need thereof; or any lawfully qualified physicians and surgeons residing in other States or countries, meeting registered physicians and surgeons of this State in consultation, or any physician or surgeon residing on the border of a neighboring State, and duly authorized under the laws thereof to practise medicine or surgery therein, whose practice extends into the limits of this State; providing that such practitioners shall not open an office or appoint a place to meet patients or receive calls within the limits of the State of New York; or physicians duly registered in one county of this State called to attend isolated cases in another county, but not residing or habitually practising therein."

Society Reports.

American Medical Association.

FORTY-FIRST ANNUAL MEETING.

Held at Nashville, Tenn., May 20, 21, 22, and 23, 1890.

OBSTETRIC SECTION.

(Continued from page 628.)

THIRD DAY, THURSDAY, MAY 22D.

Intra-ligamentary or Embedded Cysts. — DR. WATHEN, of Louisville, read a paper on this subject. After briefly describing the anatomy of the broad ligaments, the parovarium, and other fœtal tubular relics, illustrated by well-executed drawings, he said :

Cysts of the broad ligament are extra-peritoneal, and may be benign and simple, as in the so-called broad ligament cysts, or quasi-malignant, as in the intra-ligamentary, sessile, or embedded cysts. He begged to call attention especially to the latter, as the literature upon this subject is comparatively modern and not extensive. These cysts may appear to be very simple things, but they are often on the verge of malignancy and are frequently infected with papillary ingrowths. They may be divided into unilocular, papillomatous, and multilocular papillomatous cysts. In the former, while the liquid is usually limpid, it is often so poisonous that it may cause rapid malignant degeneration of the peritoneum.

The unilocular cyst is probably from broken vertical tubes of the parovarium, and is more loosely connected by a connective tissue to the broad ligament than the multilocular cyst ; it has less intimate vascular connection, is more encapsulated, and is more easily removed by enucleation. It probably never becomes blended with the fibres of the uterus or bladder by continuity of tissue.

The multilocular cyst has a few daughter cysts, distended by a clear, limpid fluid, with exuberant and firm papillomatous growths.

Its firm union and abundant vascular connection with its peritoneal and fibrous capsule, and its tendency to fuse itself to the muscular tissue of the uterus, bladder, and other sub-peritoneal pelvic structures may make its removal one of the most difficult and dangerous operations in abdominal surgery. Its origin is not settled, but as papillary ingrowths are essential features of fœtal tubular relics it is generally taught that it arises from the tubules of the parovarium. I am, however, inclined to adopt the theory of Doran, that this form of embedded cyst has its origin in stray fœtal relics which exist in the hilum of the ovary. I cannot believe that this cyst arises from follicular degeneration of supplemental ovarian tissue, or accessory ovaries, for papillomatous ingrowths are not found except in fœtal tubular relics, and in the hilum of the ovary relics of the Wolfian body exist in abundance. The walls of this cyst are usually thin, but very great development of fusiform muscular cells may make it at some parts one-half inch in thickness. The liquid is generally limpid, but may be of all shades of consistency and color. It is not probable that this cyst can be diagnosticated by a chemical and microscopical examination of its contents, as claimed by Koeberlé ; nor do I believe it is possible to make a diagnosis until the abdomen has been opened, and even then it is not always an easy matter to do so. It may be confounded in its stages with other pathological conditions. Mr. Tait, in speaking of the pathology of these tumors, says : " The cells are irregular in size, and often in form, often ciliated, but incompletely so ; they evince an immunity of growth which I hold to be the only characteristic of malignant disease. When the tumors have reached large size this epithelial proliferation becomes dendritic and papillomatous, and some of these simple-looking tumors are among the most malignant I have met with." He removed a simple-looking embedded cyst from a young girl where no dendritic or papillomatous growths were visible. She had cancer in six weeks, and died in three months with cancerous involvement of all the important pelvic and abdominal organs. This special instance does not stand alone in his experience. The liquid of the cyst is often so acrid and poisonous to the peritoneum as to positively contraindicate any form of tapping or aspiration through the abdomen, and the only treatment that is justifiable is laparotomy and careful enucleation of the cyst from its peritoneal and fibrous covering. But this is not always an easy matter, and the enucleation is sometimes so difficult and attended with such profuse hemorrhage as to cause the woman to die on the operating table. The bladder may be opened in an effort to separate the cyst when there is continuity of structure. This misfortune has occurred twice in the experience of Goodell, who has probably had more experience in the removal of embedded cysts than any man in this country. Or the cyst may have so buried itself in the pelvis as to make it impossible to entirely remove it without endangering the large vessels deep in the pelvis.

No one should attempt to shell out the embedded cyst until he understands the anatomical relations it sustains to its investing membrane and the organs and structures of the pelvis, otherwise he will not do good surgery, may fail to remove a cyst that could be easily enucleated, and may also cause the death of the woman. The cyst-walls are often so rotten as to rupture with but little careless handling, and allow the poisonous contents to enter and infect the peritoneum. For this reason it is probably better to remove the fluid with an aspirator before attempting enucleation, and then close the little opening with catch forceps. The investing membrane should be opened at the most favorable point, and with well-trained fingers one should carefully work from that point, otherwise he may lose his bearings, do a bad operation, and fail to remove the cyst. When the cyst is removed the empty capsule, if small at its base, may be ligated low down and cut away ; but with a thick, broad base, where there is oozing, the edges of the capsule should be drawn together by a purse-string suture stitched to the bottom of the abdominal wound and a drainage-tube introduced.

Severe Vomiting of Pregnancy.—DR. E. W. MITCHELL, of Cincinnati, made a report of two cases on this subject. Both were II-para, both had obstinate vomiting in first pregnancy, with much prostration. This had ceased spontaneously at three and one-half months. Both had sustained a laceration of the cervix with some cicatricial deposit in the rent.

Case I. had an attack of puerperal fever after the first labor, which left her in an invalid state from which she had not fully recovered when she became a second time pregnant, six years later. Vomiting in the pregnancy was so extreme, and loss of strength so rapid, that, after consultation, abortion was induced by the use of the faradic current. Patient made a prompt recovery.

Case II. became pregnant seven months after the birth of the first child and began vomiting at third or fourth week. The emesis gradually increased in severity until it became almost incessant, even preventing sleep at night. Rectal feeding was only partially successful, the injections being only retained when the patient was under the influence of opium. No remedy stopped the vomiting except opium by suppository or morphia hypodermically. Rectal injections of chloral and bromide and nitrate of silver to os were without benefit. Copeman's method of dilating cervix by introducing the index-finger was successful in stopping the emesis, but an abortion followed seven days later. Patient made a good recovery.

Uterus Bilocularis was the subject of a paper by DR. L. H. DUNNING, of Indianapolis. He related an interesting case which had occurred in his practice and referred to a former paper of his on this same subject.

The paper was discussed by DR. A. F. CURRIER, of

New York, who did not think that we could certainly say whether we had a uterus bilocularis or not unless we had the uterus before us.

Fistulous Escapes of Ligatures after Abdominal Operations was the subject of a paper by Dr. Marie B. Werner, of Philadelphia. The doctor reported a case on which she had operated where the ligature escaped through the fistulous opening, and cited a number of cases from the literature or from the personal reports of physicians to her. She related two cases where she removed one ovary and tube and had to reopen the abdomen later and remove the other.

Dr. W. H. Wathen, of Louisville, thought one of the most important subjects connected with abdominal section was that of sutures. The points of importance are good quality, aseptic, and not too large. They should be as absolutely aseptic as possible. He thinks very little of chemical antiseptics in ligatures. He never uses sutures which do not come to him in sealed boxes. He will not allow them to be handled by the instrument-maker and his many customers. He does not believe that in abdominal surgery we need use anything except silk sutures. He never leaves an ovary and tube unless there is a very great desire on the part of the patient to bear a child and the ovary and tube is apparently healthy. Otherwise he would always, when there is one ovary and one tube diseased, take out the other also.

Dr. A. F. Currier, of New York, thought that if we could not appreciate disease in the other ovary and tube we should not remove them. Whether the woman could have children or not was not germane to the question of operation. We should operate if it is demanded by disease. If not demanded, we should not operate.

Dr. T. A. Reamy, of Cincinnati, thought it none of the operator's affair whether a married woman wishes to have children or not. He should leave the healthy ovary, and he commits sacrilege who touches it.

Dr. H. A. Kelley, of Philadelphia, said he had operated on about forty cases of pus tubes. In every case but one he removed both ovaries because he found both tubes diseased. In this one case he had to reopen the abdomen in a short time and remove the other tube. Most operators think it the best plan to remove both tubes, but he should not do it did he think one was healthy. He has had several cases where sutures came out through fistulæ. When he sees a fistulous tract in the abdominal wall he tells the patient that it will keep up till one or two little knots of ligature come out, and he is generally justified in his conclusion. The ideal ligature is a well-prepared catgut. He is now about to enter on some experiments with catgut prepared after the method of Doederlein, of Leipsic, that is, by dry heat.

Dr. F. C. Meyers, of Fort Wayne, preferred the silkworm suture. He removed one ovary from a lady in 1874, and left one. The lady immediately became very prolific, showing that there was a healthy ovary somewhere.

Adulterated Silk.—Dr. A. W. Johnstone, of Danville, Ky., said that when he bought his silk sutures in America he often had his ligatures come through the drainage-tube. Since buying them in England he has had whole handfuls of ligatures left in the abdomen to disappear entirely. Our silk is adulterated. It is one-tenth flax, hemp, or some vegetable matter, which will not absorb. Pure silk, if placed in caustic potash, will disappear as a thread, and can be spread about like collodion.

Imperfect Operation.—Dr. Joseph Price, of Philadelphia, thinks that when sutures appear in the fistulæ it is due to an imperfect operation. Too many tie the tubes too far from the cornu—one to one and a half inch. This left unhealthy broken-down matter, which can be scraped away with a curette, and which is not unlike a broken-down gland. When he had sinuses he would in the vast majority of cases do the operation over again and go to the bottom of the trouble. We will find a cheesy, diseased condition of affairs at the bottom of the sinus, with probably some attachments We have no right to endanger a woman's life for a possible conception. A hydro salpynx is often as virulent as a pus tube, and hence if found on one side remove the other also, unless we are anxious to do a second operation.

Dr. T. A. Reamy, of Cincinnati, had probably done this operation as often as any one in the house. He did not speak of conception in a sentimental but in a scientific manner. The conception was the test of the cure.

A Plea for the General Adoption of the Traction Forceps was the subject of a paper by Dr. Joseph Hoffmann, of Philadelphia. He favored the forceps very much, and did not believe in the short forceps as the traction forceps did the work. In using the traction forceps the force applied is in the centre of the fenestration, and hence injury is less frequent. The doctor discussed the merits of these forceps at length, and demonstrated the use of the forceps.

Dr. Joseph Price, of Philadelphia, was satisfied that the traction forceps have saved many children, and there is no harm in using them with the head on the perineum; in fact, they are in many cases the means of saving the perineum. He had used this traction for over an hour on his own child, with the occiput in the sacrum, and had had no bad results.

A Retrospect of Pelvic Surgery was the subject of a paper by Dr. Joseph Price, of Philadelphia. He attacked the conservative surgeons, who, he said, were riding on a popular wave because conservatism meant safety. They were men of inexperience, their cases operated on had died, or if young men they had been carried off by electricity. Electropathy, hydropathy, and homœopathy are the three great frauds. Results of all these operations depend very much on the experience and training of the men who operate.

Drainage in Abdominal Surgery was the subject discussed by Dr. George E. Shoemaker, of Philadelphia. No tube is better than a badly managed one. If a tube remains in for forty-eight hours it will tide over the dangerous period and not interfere with the cicatrix. Pressure of the ends of the tube may cause sloughing of the intestine. To prevent this, lift the tube one-half inch each day, and permit it to return to its place. If a tube needs emptying only once in twelve or twenty-four hours its presence is unnecessary.

Dr. H. C. Meyers, of Fort Wayne, Ind., resorted to drainage in a great many cases. If etherization was prolonged, or patient prostrated so as not to be able to reabsorb serum, introduce a tube to carry it off.

Papers were read by Drs. Ree, of Cincinnati, and Greenby, of Kentucky, and several read by title, after which the Section adjourned.

NEW YORK STATE MEDICAL ASSOCIATION, FIFTH DISTRICT BRANCH.

Sixth Annual Meeting, held in Brooklyn, May 27, 1890.

William McCollem, M.D., President, in the Chair.

After some opening remarks by the President, and the transaction of the business of the Branch, Dr. John Shrady read a "Memoir of the late Isaac E. Taylor, M.D."

Dr. Charles A. Leale, read a "Memoir of the late Charles S. Wood, M.D."

Biographical sketches of Dr. Lewis Hall Sayre, and other deceased Fellows, were read by title.

Observations on Rheumatism, Especially as Involving the Tonsils.—Dr. William Henry Thayer, of Brooklyn, read a paper on this subject.

Within a few years, he said, different observers had noted the occurrence of rheumatic inflammation in tissues and organs not previously recognized as liable to its

invasion. Having referred to a number of these affections, such as rheumatic pneumonia, bronchitis, pleurisy, and pharyngitis, he said that the relation of tonsillitis to rheumatism in any case had never been noticed until a very recent period. The only experience that had, as yet, been published, was that of Dr. C. W. Haig-Brown. In a paper entitled "Follicular Tonsillitis and its Relation to Rheumatism," which appeared in the *British Medical Journal* in September, 1889, he related the frequency of tonsillitis and of rheumatism in a public institution, due, as he thought, to fever exhalations. As the result of his observations, he wrote: "Having so far established a causation and clinical relationship between rheumatism and tonsillitis, we are led to one of certain conclusions: That rheumatism is a general disease which as frequently finds expression in the throat as in the fibrous and serous membranes; or, that the inflamed tonsil is the receptacle for the rheumatic poison and the medium for its conduction to the general circulation; or, finally, that specific germs find their way into the body under circumstances favorable to their entry, and then evidence their presence in inflammation of the tonsils and the fibrous and fibro-serous membranes."

In the winter of 1888–89 Dr. Thayer said he saw six cases of rheumatic tonsillitis, and he proceeded to give a detailed account of these. The first was that of a boy, twelve years of age, who, in five consecutive months had five attacks, and, after nine months' freedom from illness, three more attacks, in the course of two months, of tonsillitis or rheumatism, or both combined. The second case was that of a commercial traveller, aged forty, the subject of alcoholism, who suffered from acute rheumatism of the arms and neck, tonsillitis, and gonorrhœa. The third patient was a girl, seventeen years of age, who had an attack of tonsillitis in connection with rheumatism, the latter first affecting the shoulders and insteps and afterward going from joint to joint, though with little swelling. The fourth was a lady, aged thirty, who had moderate follicular tonsillitis in connection with rheumatic pains in the neck, chest, abdomen, and leg. The fifth was a young girl, aged sixteen, who had a severe attack of acute articular rheumatism following quinsy with purulent discharge. He reported that she had quinsy in 1886 and 1888, the last attack being followed by articular rheumatism, continuing nine weeks. The sixth case, was in a married woman, thirty years of age, who had follicular tonsillitis with subacute rheumatism.

He then related a seventh case, in a boy aged twelve, which he said was of especial interest as an instance of rheumatism involving a derangement of lymphatics. Enlargement of the submaxillary, sublingual, and other glands, together with the rheumatic trouble, seemed to terminate in an explosion of cellulitis of the whole side of the face.

Some of these cases, he thought, might constitute a desirable contribution to the study of the physiology of the tonsils, which had enlisted the attention of various physicians within the last few years. Having referred to the theoretical views of Drs. R. Hingston Fox, S. Spicer, and others, he stated that Dr. Eugene Hodenpyl, of Brooklyn, had been devoting much time and care to experiments upon living animals, and to microscopic examination of the faucial tonsils, with results which had not yet been published but which he was permitted to present. Some of the conclusions arrived at were as follows: None of the theories thus far advanced to explain the functions of the tonsil are conclusive. The tonsils are not absorbing organs. They neither absorb fluids nor solid particles from the mouth, under ordinary conditions, nor do they take up foreign materials from the tissues in their immediate neighborhood.

Some Personal Observations upon the History and Claims of Hypnotism, and its Employment in Certain Diseased Conditions.—Dr. H. Ernest Schmid, of White Plains, read a paper on this subject. From his own individual experience he said that he felt able to prove beyond doubt the value of this new but now scientifically accepted therapeutic means, especially in these days of neuroses of all kinds. Not very long since he had, like a large number of other physicians of the present day, treated the claims of hypnotism with derision, but he did not hesitate to admit that this opinion was one based simply upon ignorance. Unmistakable results had so greatly changed his views that he had come to speak a word in defence of what he had formerly been inclined to ridicule.

Having remarked that when we reflected on the latest achievements of science in other directions it became an easy matter to broaden the foundations upon which we stand by admitting that what has been accomplished seemed at one time far more impossible than the claims of hypnotism; he said it was an acknowledged fact that intellectual and moral phenomena can be communicated to others, not by a microbe, but through that imitative faculty which all men possess to a greater or less degree. In this connection he alluded to the epidemics of suicide which have been noted from time to time in various parts of the world, in which this crime seemed to be propagated by a sort of moral contagium. He held that every act of imitation was a transfer of a brain movement communicated to another in such a manner that the brain which repeats this movement of the first brain adopts it as one of its own originating. On this, to his mind, rested the great problem of hypnotism; and even among animals, such as dogs, this imitative power had been observed.

But even diseased brain manifestations could produce similar phenomena in other beings; though, of course, the soil must be suitable for receiving impressions. All were familiar with the fact that gaping is contagious, and also that St. Vitus's dance and epileptic seizures are sometimes communicable. Not a few alienists had expressed the belief that mental aberration may be communicated to a sound mind by example and daily intercourse with the insane. It was astonishing to find, on examination, to what extent our intelligence was impressed by favorable as well as unfavorable surrounding influences. There existed within us a secret force which constantly conformed our thoughts to our actions, and our entire inner being to our external habits. Therefore, if we were induced to commit wrong actions by contagion, as it were, our inward being would mould itself in conformity with them; and hence it did not take a great deal to plant in a person (especially in youth) false ideas, and thereby to cloud the sound mind and cause him to lose his clear reasoning.

Hypnotism was the imparting of a brain movement to others, or the creating of a new one in another, which became as the other's self-originated thought. The only peculiar feature about it was the condition that could be produced in the majority of persons, in which they were most ready to receive and adopt these foreign thoughts as their own. He had nothing to say on the point which had been raised by some, that hypnotism is detrimental to the spiritual or mental health of the persons experimented upon. If dangers should come from it (though he did not see how) had we not many therapeutic means that *might* prove dangerous?

Having referred to the conflict among the followers of hypnotism, headed on the one side by Charcot and on the other by Professor Bernheim, of Nancy, he said that "suggestion" to him meant simply a species of psychic influencing, differing, however, from all others, such as the command, the communication, or the teaching. In being commanded in the waking state there always existed in the obeying subject's brain a degree of questioning or criticising, whereas during hypnotic sleep this was, not the case, and the suggestion was carried out without any examination as to its intrinsic value at all. As had been stated, the thought, the idea, the impulse to act was in the hypnotized person, received, adopted, absorbed we might say, and regarded as originated within his own brain; and the hypnotic state produced a capacity for concentrated brain power unknown during the waking state.

If diseased conditions or emanations of the brain could

be produced by securing them in others (as there was abundant evidence to show), why, he asked, is it not possible, reversely, to make the brain conquer diseased conditions? To put it more logically: If the brain can be so influenced as to produce in the body a diseased condition, why is it impossible to expect the reverse, *i.e.*, to impress the brain with the strong desire to remedy a diseased condition of any part of the body, as long, especially, as it is of a functional nature?

Having stated that hypnotism was simply a development out of the so-called animal magnetism, he gave a sketch of its history, tracing it back to the occult science of astrology, which had naturally died, but had left certain results behind it. After following it down to the present time, he said that, in 1878, Charcot made demonstrations with it, and exhibited the physical condition of hystero-epileptics during the hypnotic state, and, in 1881, Paul Richet published in his book on the "Grand Hystérie," many hypnotic experiments in the same spirit as Charcot; but no public scientific acknowledgment of the claims of hypnotism upon scientific considerations was made till the medical faculty of Nancy became interested in the subject. Then, in 1886, was given to the world Professor Bernheim's interesting work, containing a full account of his individual experience with hypnotism. The Society for Psychical Research, in England, had been devoting much time to the subject, and Hack Tuke had for years past pointed out its therapeutic importance. In Switzerland great work had been done for it by the distinguished alienist Forel, and from his influence had emanated the great interest awakened for the study of hypnotism in Germany.

Dr. Schmid stated that he had carefully studied whatever he could find in print bearing upon the subject, and for some time past he had employed this important therapeutic means with excellent results in appropriate cases. He then proceeded to give in detail four sample cases in which he had used hypnotism with success. The first was a case of hysterical insanity; the second, one of violent ovarian neuralgia in a young lady of highly nervous organization; the third, one of subacute rheumatism of the wrist; and the fourth, like the first, one of hysterical insanity. In all complete cures were effected. In conclusion he quoted a passage from Maudsley, illustrating some of the points that he had been endeavoring to bring out, which was in part as follows: "Perhaps we do not as physicians consider sufficiently the influence of the mental states in the production of disease, and their importance as symptoms, or take all the advantage which we might take of them in our efforts to cure it. Quackery seems to have got hold of a truth which legitimate medicine fails to appreciate and use adequately. Assuredly the most successful physician is he who, inspiring the greatest confidence in his remedies, strengthens and exalts the imagination of his patient. If he orders a few drops of peppermint-water with the confident air of curing the disease, will he really not do more sometimes for the patient than one who treats him in the most approved scientific way, but without inspiring a conviction of recovery? . . . Entirely ignorant as we are, and probably ever shall be, of the nature of mind, groping feebly for the laws of its operations, we certainly cannot venture to set bounds to its power over those intimate and insensible molecular movements which are the basis of all our visible bodily functions, any more than we can justly venture to set bounds to its action in the vast and ever-progressing evolutions of nature, of which all our thoughts and works are but a part. This much we do know, that . . . in the microcosm of the body, which some ignorantly despise, there are many more things in the reciprocal action of the mind and organic elements than are yet dreamt of in our philosophy."

Dr. C. A. Leale said that while in certain cases the use of hypnotism might be attended with benefit, he should like to utter a word of warning. He accordingly related the case of a young girl who, while in the hypnotized state, suddenly developed the most violent mania, which lasted for several months and required her confinement in an insane asylum.

Dr. Schmid said that he did not think such a case should deter us from the use of hypnotism in suitable cases, as it seemed to him that the acute mania was merely a coincidence. It was a matter of not uncommon experience with those accustomed to treat the insane that mania should develop in this very sudden manner.

Ectopic Gestation, especially with Reference to Diagnosis and Therapeutics—Dr. George T. Harrison, of New York, read a paper on the above subject.

In some preliminary remarks on the pathology of this anomaly, he said the doctrines recently taught by Lawson Tait and John Strahan were diametrically opposed to the truth. In regard to etiology, partial peritonitis, producing flexion and constriction of the tube, was, as stated by Virchow, a potent factor in the production of tubal pregnancy. The changes produced in the tube by catarrh and blennorrhœa were also a frequent cause of this variety. Myomata of the uterus and polypi of the tube in some cases played a conspicuous rôle. As a matter of positive knowledge it might be stated that in all cases of ectopic gestation the uterus during their development underwent the same changes as in the beginning of normal pregnancy.

As to the possibility of ovarian pregnancy, Virchow had recently declared that in his opinion no doubt could exist in regard to its occurrence, and in Winckel's text-book on obstetrics there was an illustrative drawing of a beautiful example of this form of extra-uterine pregnancy. Whether primarily the fertilized ovum could become attached to the peritoneum and undergo development (abdominal pregnancy) was a matter of doubt, because it had not been certainly demonstrated that tubal and ovarian pregnancy could be excluded in the cases heretofore investigated.

In tubal pregnancy, which was the form most frequently met with in practice, the rupture, which ordinarily took place early in pregnancy, might occur either into the broad ligament or at the upper periphery of the tube into the abdominal cavity. The doctrines taught by Tait and adopted by Strahan, upon the relations of tubal pregnancy to retro uterine hæmatocele were radically wrong. What he called extra-peritoneal hæmatocele ought to be called peri-uterine hæmatoma, or simply hæmatoma; while the term retro-uterine hæmatocele should be limited to those blood tumors occasioned by effusion of blood into a part of the peritoneal cavity segregated from the rest of the cavity by pseudo-membranes, Douglas's pouch usually being the seat of this effusion. What Tait called an intra-peritoneal hæmatocele was not a hæmatocele at all, but a free effusion of blood into the abdominal cavity, there being no tumor displacing the uterus forward. If, however, after rupture of a tubal pregnancy, the extravasation of blood took place at a part of the abdominal cavity by pseudo-membranes (which would naturally be Douglas's pouch, between rectum and uterus), the blood would separate the walls of this space, displacing the uterus forward, encroaching on the space of the rectum, and forming, as a rule, a globular, well-defined tumor.

Such blood tumors could also be formed by a somewhat different mechanism, that is if the hemorrhage persisted for some time and was moderate in degree, and the pelvic cavity was closed above by blood coagula or by inflammatory adhesions. Effusion of blood into the broad ligament gave rise to a blood tumor beside the uterus, a true hæmatoma. The correctness of these views was attested both by clinical data and post-mortem observations; and in at least three instances Dr. Harrison was enabled to diagnosticate positively the existence of adhesions between the uterus and rectum, the remains of previous partial peritonitis, in the subjects of which hæmatocele was subsequently developed. The two conditions, retro-uterine hæmatocele and hæmatoma, could, as a rule, be readily distinguished. Tait simply ignored the exist-

ence of hæmatoma in its true significance; there being for him only extra peritoneal hæmatocele, properly called hæmatoma, and free extravasation of blood into the abdominal cavity. To refute this error it was only necessary to quote the high authority of Virchow and of such competent observers as Ziegler, Klebs, and Coates.

As demonstrated by Karl Schroeder, rupture of a tubal pregnancy was one of the most frequent causes of retro-uterine hæmatocele. The cases of Hart, Coates, Maury, and others proved that the rupture might take place into the broad ligament and result in the formation of a hæmatoma; but the facts of pathological anatomy and clinical observation in other cases could only be explained on the hypothesis that the above explanation of the origin of retro-uterine hæmatocele was correct.

In regard to the possibility of diagnosticating ectopic gestation in the early months of pregnancy he quoted Tait's opinion in the negative, and remarked that such scepticism was unjustifiable in the light of recent experience. He had himself seen four cases of tubal pregnancy prior to rupture, and in one of them the diagnosis was confirmed by the extrusion of the decidual membrane from the uterine cavity. It was true, however, that these cases were not generally seen until rupture had taken place. Dr. Harrison said he concurred fully with Veit in regard to a diagnostic sign to which he had called attention. This was the peculiar softness of the pregnant tubal sac, and it was not found in any other variety of tubal tumor. In addition, the pregnant tube showed a degree of elasticity peculiar to itself. After blood had been effused into the tube the differential diagnosis became much more difficult, since under these circumstances the tube was much more tense and harder to the touch.

As a rule, women who were the subjects of ectopic gestation did not invoke the aid of the physician until symptoms of rupture had appeared. The clinical phenomena then presented were those of a free hemorrhage into the abdominal cavity, or those pertaining to hæmatocle or hæmatoma. The diagnosis was made absolutely certain if decidual membrane was extruded from the uterine cavity accompanied by moderate hemorrhage. In the later months of ectopic gestation the diagnosis of pregnancy was generally easy; but the demonstration of the fact that the fœtus was outside of the uterus might offer difficulties. Accurate bimanual palpation, however, would ordinarily lead to the recognition of the true condition.

In the matter of treatment, Dr. Harrison said he was in entire agreement with the views of Olshausen. In the first months, before rupture, if the diagnosis seemed certain, laparotomy was indicated. After rupture had occurred, during this period, operative interference was indicated only when the symptoms assumed a threatening character. When the first months had passed, if the ovum continued to grow, operation was called for, and the sooner the better. If possible, the entire fœtal sac should be extirpated. If not, it should be sutured to the abdominal coverings and drained above. In individual appropriate cases the future would have to decide whether it is not best to leave the placenta and immediately close the abdomen. Electricity, while it would destroy the fœtus, would not cure the patient.

The President said that there were but few skilled operators, even in the large cities, and it seemed to him that for the mass of practitioners, and especially in the country, electricity must still be regarded as the treatment *par excellence* for ectopic gestation.

Dr. McGillicuddy spoke of the many mistakes that were made in diagnosis, and said that he had once been present when a well-known gynecologist performed laparotomy for salpingitis, but found to his surprise on opening the abdomen that extra-uterine pregnancy was present.

Dr. Harrison said, in reply to the President, that in almost every district in the country there was some surgeon competent to operate. In the early part of gestation the operation was in fact an extremely easy one; and the case of Dr. Janvrin, in which the patient died after the fœtus had been destroyed by electricity, showed the danger of depending on that mode of treatment.

Surgical Treatment of Cough in Diseases of the Upper Air-Passages, with Demonstration of Instruments and Specimens.—Dr. J. W. Gleitsmann, of New York, read a paper on this subject. Among the affections treated of were adenoid vegetations of the vault of the pharynx, hypertrophic rhinitis, deviations and exostoses of the nasal septum, and hypertrophy and other abnormal conditions of the faucial, pharyngeal, and lingual tonsils.

The Radical Cure of Hernia.—Dr. Thomas H. Manley, of New York, then presented five or six patients, ranging from infancy to old age, on whom he had operated for "the radical cure of hernia" by the McBurney method.

AMERICAN PEDIATRIC SOCIETY.

Second Annual Meeting, held at Mott Memorial Hall, New York, June 3 and 4, 1890.

J. Lewis Smith, M.D., President.

Address of the President. — After some words of welcome by the President he referred to the important position which pediatrics had of recent years come to take among the special branches in medicine, and then mentioned some of the work done by Americans and members of this Society the past few years, which was likely to prove enduring—for instance, the operation of intubation, and the publication of the "Cyclopædia of Diseases of Children," an ably conducted journal of pediatrics. He thought it best for this Society to remain entirely distinct from any other; that the meetings should be held in the fall, perhaps the third week in September; that its membership should be drawn from the whole of America, and made special reference to South America and Mexico; suggested that the two special subjects for discussion called for by the constitution be announced each year six months before the meeting; that the general programme be issued a month before the meeting; that, following the precedent furnished by the Pediatric Section of the Ninth International Medical Congress, members who have opinions which which seem important, or facts which throw light on the subject, and do not have time to present them during the discussion, may present them in writing as briefly as possible to the Secretary.

Management of Human Breast-milk in Cases of Difficult Infantile Digestion.—Dr. T. M. Rotch, of Boston, in this paper gave an analysis of the human milk in a series of cases—during the time of healthy digestion, and also during indigestion in the infant, showing, at the same time, the bearing of the mother's health and habits, and the amount and quality of food taken, upon the character of the milk.

Physicians acknowledged that the maternal breast-milk (meaning thereby the average) was the best diet for the infant, but did not seem generally to fully realize the importance of their admission, for not infrequently they forbade the use of this food, and ordered a wet-nurse, or hand-feeding, when the infant showed indisposition more or less marked, without taking the trouble to analyze the milk, or inquire into the reasons for its possible unwholesome qualities. Brief reference was made to the various conditions affecting the quantity and quality of the milk, such as the state of the mother's health, exercise, food, mental emotions, length of the intervals between the nursings, etc. The longer the intervals the greater the proportion of the watery elements. In a general way the milk could be looked upon in its normal condition as a secretion, yet as colostrum and under certain unfavorable conditions it took on to a considerable degree the characters of an excretion. Marked variations in the milk were almost always shown in the amount of fats and albuminoids which it contained; and, consequently, we treated almost universally these elements. Meat, and a nitroge-

nous diet increased the fats in milk, while a diet of fat had not this effect. The albuminoids were more difficult to deal with. To lessen them, he had found in practice the best means was, if the woman were in health, to increase the amount of exercise—preferably walking in the open air. One to two miles a day was the walk required by the average woman. In the diagrams presented, containing an analysis of the milk in several cases of difficult digestion, there was usually an increase in the amount of albuminoids, sometimes up to or beyond four per cent., with or without a change in the fats, and treatment which resulted beneficially to the patient had the effect of reducing the albuminoids. He had not known an abscess to follow the use of the pump on the human breast, and exhibited a simple and efficient instrument of this kind. If one had to deal with a case in which there was very poor milk, this should first be made rich, and afterward the constituents be altered as required. But there were cases in which, in spite of following out the rules contained in the paper, we were unable to manage the milk, and make it suitable food for the infant. Nor were there fixed limits as to the proportion of albuminoids and other ingredients that should be present. Each case must be studied by itself.

In the discussion appreciation was expressed of the value of work in this special direction.

Spurious Meningocele ; Presentation of Patient.—Dr. F. Huber, of New York, read the paper and presented the patient, a girl, nine years of age, in whom the spurious meningocele followed the use of the forceps during labor. There was a fluctuating tumor over the right parietal bone, covered by the scalp, a fracture of the bone, and probable communication with the lateral ventricle, for tapping had shown the fluid to be cerebro-spinal. It recurred after each tapping, and had existed until to-day. The child had epileptic attacks, due probably to cortical changes. The literature of the subject was not extensive. In conclusion, he stated the following propositions : Simple fractures of the vault in children, involving the membranes and brain, may be attended by one of two possible complications. In the one variety we notice a cranial gap and the brain in direct apposition, with bone pulsating at the bottom of the opening ; in the second we have a false meningocele ; the watery tumor may communicate with the interior of the skull, or the opening close subsequently to the injury by bony or fibrinous union. False meningocele may be primary or secondary. It is primary when it complicates a simple injury fracture ; secondary when it occurs after compound fracture, trephine, or other operation on the brain. As a primary condition it is peculiar to children. If pulsation be present or pressure on the tumor give rise to intracranial symptoms, the communication with the interior is patent. It must not be forgotten, however, that the opening may be small, or several, or in a tortuous direction, and pressure not give rise to intracranial symptoms. The presence of the meningocele is proof positive that the lateral ventricle has been involved. It may develop at once, or after days, weeks, or even months. The operative measures may be curative or palliative.

On what Early Symptoms may We Rest a Diagnosis of Tubercular Meningitis?—Dr. W. P. Northrup read the paper, in which he gave a graphic picture of the symptoms in a case of tubercular meningitis, also related some cases of gastro-entero-colitis, and one of pneumonia with cerebral symptoms, all of which illustrated the difficulties in differentiating tubercular meningitis. He asked the members what they regarded as the four most reliable signs of tubercular meningitis in early life, meaning prior to the second year. His own answer would be, first, persistent vomiting ; second, irregularity of pulse ; third, irregularity of respiration ; fourth, apathy (dulness with a mark on the countenance, or dead look).

Dr. C. W. Earle, of Chicago, thought that, with the exception of vomiting, the symptoms mentioned by Dr. Northrup were not early ones, and they were more characteristic in children over, than in those under, two years. And the vomiting should have been described as cerebral—projectile. As a matter of fact the diagnosis was very difficult and uncertain, but if he were to undertake to mention three most important early symptoms in early life they would be—a long prodromal period which indicated that something was coming on, the cerebral vomiting, and a history of hereditary taint or trauma. Later there was local spasm, etc.

All Signs may Fail.—Dr. Rotch said all these signs might fail, the case come to the post-mortem table with diagnosis of tubercular meningitis, and some other condition be found the cause of the symptoms and death ; or no lesion at all be found, for there were affections of the vaso-motor and pneumogastric systems which might produce the symptoms mentioned, and even prove fatal, yet our present methods fail to reveal any changes at the autopsy. Projectile vomiting was not always an indication of cerebral or meningeal lesions ; he had seen it in otalgia starting from the teeth, and ptosis and inequality of the pupils might be produced by simple irritation of the tympanum in the young. Thus we should be careful in laying down diagnostic rules in diseases of early life where almost all symptoms might be initiated by reflex nervous troubles. He protested especially against apathy being regarded as an early sign of tubercular meningitis.

Dr. A. Jacobi thought that, in the majority of cases, finding the symptoms named by Dr. Northrup, and connecting them with the other points in the history, one would be right in making the diagnosis of meningitis, but he should not be too certain of it. For he had seen, for instance, irregular pulse, long continued, in anæmia ; projectile vomiting did not occur unless the tubercles involved the meninges at the base, and the meningitis need not be tubercular in order to have these symptoms. The temperature had not been included among the four symptoms, but he could say it was more generally at this period not elevated. In the beginning stage, that of irritation, the child was seldom seen by a medical man ; it was not until vomiting occurred, or other special symptoms developed, that he was called. He would then find there had been a period of peevishness and sleeplessness. Unilateral symptoms pointed rather to this affection, bilateral to nephritis ; then we had also to consider the differential diagnosis between tubercular meningitis and the rheumatic, the syphilitic, and other forms.

Dr. Joseph E. Winters thought the four symptoms mentioned by Dr. Northrup, when properly or intelligently applied, could be relied upon with a great deal of confidence in diagnosis of this disease. The physician, should, however, exclude reflex causes, and then look carefully into the history, and observe the patient by the hour, especially while asleep.

A Subacute Affection.—Dr. A. Caillé called attention to the fact that tubercular meningitis was not an acute, but usually a subacute affection—a point to bear in mind in speaking of an early diagnosis. He could in many cases distinguish reflex cerebral symptoms from encephalo meningitis, but he would not undertake there to say positively the case was one of tubercular meningitis.

The Diagnosis not Early.—Dr. J. H. Fruitnight related two cases, in one of which the diagnosis seemed clearly that of tubercular meuingitis, the symptoms among others being those mentioned by Dr. Northrup ; but he said he saw the patient only after ten days or two weeks, as was the rule, and at this period it was too late to call our diagnosis early.

Three of the Four Signs Absent.—Dr. W. P. Watson referred to two cases, in one of which the diagnosis of tubercular meningitis was confirmed by Dr. Jacobi. The patient died. Yet the symptoms relating to vomiting, the pulse, and respiration, mentioned by Dr. Northrup, were absent.

Dr. Earle thought tubercular meningitis not as common as formerly, and in reply to his question whether such was the observation of others, Dr. Rotch replied in

the affirmative, and the President said that in New York City we more commonly make the diagnosis of cerebro-spinal fever or meningitis, while formerly more cases were reported as tubercular meningitis.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, May 27, 1890.

A. S. HUNTER, M.D., PRESIDENT, IN THE CHAIR.

Remarks on the Sterilization of Milk Food, with a Demonstration of the Different Forms of Milk-Sterilizing Apparatus now in Use.—DR. AUGUST CAILLÉ presented this subject. Methods of preserving food consisted in boiling and keeping them from exposure to germs, or in freezing. One of the most important articles, and at the same time one of the most unstable, was milk. Diarrhœal diseases were now regarded as belonging among those caused by germs, and a frequent source of them was impure or spoiled milk. Credit was due to Soxhlet for first devising a method of sterilizing milk for use in the household (1886). Since then various methods had been brought forward, all of which were modifications of Soxhlet's, among them being Escheric's, Wilson's, Arnold's cooker, Seibert's, Koplik's, etc. Then there were two reliable firms which sterilized milk at the dairy in the country and shipped it to the city. In all the methods the milk was placed in bottles, a stopper inserted, admitting of the escape of air and gases at the beginning of the heating process, set on a tray in a vessel which stood above water at the bottom, the cover then applied and the water made to boil about forty minutes. The stopper might consist of cork with a glass tube in the centre, of cotton, or of rubber with a channel a part of the distance on one side. If necessary the family could make their own tray, and use an ordinary tin vessel with a cover, and nursing-bottles.

Uses a Wash-Boiler.—DR. HENRY KOPLIK had found that some mothers would not sterilize milk for their children, and preferred to buy it if sold at a very reasonable figure. He therefore had improvised an apparatus for sterilizing milk in a number of bottles at one time. It was the ordinary method, except that a wash-boiler was employed, surrounded by some non-conducting material. Before putting the milk into the bottles they were exposed to heat in an oven at 150° to 180° F., for an hour. The ideal cork, he said, was cotton. While milk might remain sterilized and pure for weeks or months, he did not believe in giving it to children when more than three days old.

The Weight of the Baby should Determine the Quantity of Food.—DR. SEIBERT stated some objections to Soxhlet's apparatus, and described his own, in which rubber corks were used, cut out part the way up one side to allow escape of gases until pushed entirely in. An essential point in his method consisted in bottles of graduated sizes in accordance with the weight, not the age, of the baby.

Double Hydrosalpinx; Pedunculated Fibroid of the Uterus.—DR. H. T. HANKS presented the specimens. The case was of interest as showing clearly that in some instances hydrosalpinx could be cured only by an operation. This patient's symptoms began six years ago, following exposure, consisting in part of attacks resembling pelvic peritonitis. She was at different times in hospitals in London, under Duncan and Barnes, who felt fluctuating pelvic tumors and recommended an operation, but it was refused. Dr. Hanks operated May 7th, removing tubes, one of which contained half a pint, the other seven ounces of fluid, and also a pedunculated fibroid from the fundus of the uterus. Recovery was uninterrupted.

The Immediate Operation for Lacerated Cervix.—DR. ROBERT A. MURRAY thought a sufficient reason for presenting a paper on this subject was the fact that operations for the repair of the lacerated cervix were the most frequent of those performed by gynecologists. The arguments in favor of immediate repair of the perineum, an operation which was generally accepted by obstetricians, were repeated in favor of immediate repair of the cervix. Yet in the latter injury immediate operation was very seldom resorted to, although it had been advocated, together with the immediate operation for all other lacerations occurring during labor, as long ago as seven years by Dr. Pallen. While in the cases in which the author had employed it the laceration had been considerable in degree, and attended by no slight amount of hemorrhage, yet he thought it should be resorted to in all cases except those in which the tear was slight. It was especially indicated where this injury was attended by marked hemorrhage; where the circular artery was involved there was only one proper procedure, namely, to suture.

The only difficulty experienced during the operation was in passing the first suture at the angle of the wound. The parts were soft and relaxed, the cervix could easily be drawn down by the vulsellum forceps, pressure was made over the uterus by an assistant; the sutures should not be twisted or tied too tightly, lest they cut through the softened tissue. The object was merely to keep the surfaces coaptated. The parts were so benumbed during labor that an anæsthetic was not called for. If the patient were on the back, two assistants would be necessary to hold the legs in the lithotomy position. There should always be an examination for laceration of the cervix when more hemorrhage than usual took place, and especially if the pulse were at all affected. Two fingers being introduced, if there were a tear the rim of the cervix would give more at that point. A notch would be felt approaching nearer the vaginal junction than at the rest of the circumference, and warm blood would course over the finger. He had operated three times, without a speculum or other instrument except those usually carried in the pocket-case. In two he used silver wire, in one catgut. He had been led to do the operation to prevent puerperal inflammation, either local or general, and to avoid a slow convalescence seen in some cases after labor, even when unattended by elevation of the temperature.

Some Objections to the Operation.—DR. H. C. COE had performed the immediate operation in but one case, and then because the tear involved the circular artery. A laceration of the cervix after labor was a contused wound, and if it were sutured we might or might not get union, might or might not prevent sepsis. If suppuration occurred there would be greater danger of sepsis than if the wound had not been sutured. In the case on which he operated, the technique was extremely difficult. Then as to hemorrhage from the circular artery, it was extremely rare, and we were likely to suppose hemorrhage came from the lacerated cervix when in reality it came from a tear from the vagina. He referred to a case in which he felt sure before the patient left the hospital there was a bad tear of the cervix, but subsequent examination revealed none demanding an operation. Ordinary antiseptic precautions would guard against sepsis and render the immediate operation unnecessary.

DR. H. J. BOLDT was satisfied there were few cases in which the tear was so extensive as to demand the immediate operation; besides, it was difficult to detect minor injuries to the cervix, and under cleanliness they would heal. He thought the immediate operation more difficult than the secondary.

DR. A. P. DUDLEY thought the chief objection to the immediate operation would be that it might prevent free drainage from the uterus. He would use catgut, and operate only where the tear was considerable and attended by more than ordinary hemorrhage. He thought the hot-water douche would cause ordinary lacerations to heal.

DR. H. T. HANKS also thought the immediate operation would only be called for to arrest hemorrhage or in marked lacerations.

Dr. Murray said he would believe the hot douche would cause the lacerated cervix to heal after labor if it could be shown to do so in lacerations made by the scissors, as in the secondary operation if sutures were not inserted. The cervix, during labor, was much elongated, and could easily be reached for the operation. There was less danger of secretions becoming pent up than after the secondary operation; the ring was simply completed, the canal was large, the tissues patulous; the sutures simply approximated the tissues, and made no after-tension, but rather became loose during the process of involution. This process of involution also accounted for apparent healing of lacerations in many cases, while douches had nothing to do with it except to keep the parts clean. But, as in the case of the perineum, the tear only partially united, and when considerable at least should be sutured.

To Reduce the Initiation Fee.—Dr. Avery gave notice that at the next meeting a resolution would be offered, to reduce the initiation fee from five dollars to one dollar.

Correspondence.

A WORTHY OBJECT.

To the Editor of the Medical Record.

Sir: An effort is being made to raise a fund for the aid of Dr. J. Hancock Douglas, who is now a patient in the Presbyterian Hospital in this city.

Although this is not to be limited to the medical profession, it is hoped that the professional brethren of Dr. Douglas will do something for his relief.

Dr. Willard Parker, No. 50 West Ninth Street, has kindly consented to receive contributions for this purpose.

Very truly yours,

T. Gaillard Thomas, M.D.

600 Madison Avenue, June 9, 1890.

THE DEGREE OF HOSPITAL GRADUATE.

To the Editor of the Medical Record.

Sir: I am heartily in favor of the establishment of the degree of Hospital Graduate, as proposed by Dr. Abbott. A physician's clients often want to know what opportunities for study and what experience he has had without subjecting him to a cross-examination.

The additional letters necessary to give this information are easily added, will soon be understood, and are not as cumbersome or inelegant to most minds as we must infer they are to the mind of Dr. R. Ellis, to judge from his letter in the Medical Record of April 19th.

Before me lies a pamphlet by "Henry Drummond, F.R.S.E., F.G.S." At hand is a volume by "John Charles Bucknill, M.D. Lond., F.R.S., F.R.C.P." I am glad to learn so readily the facts stated in these abbreviated degrees, and no thought of cumbersomeness crosses my mind. Surely Dr. Ellis has met with many such instances in his reading; does he condemn the whole custom because possibly there are some men who have gained these degrees by other than "hard work?"

Dr. D. S. Maddox, in a letter published in the Medical Record for May 10th, says, "In almost every community may be found men who, although never internes in a hospital, are nevertheless thoroughly competent to treat any medical or surgical case they may be called on to attend." He instances Marion Sims and Ephraim McDowell. Let us apply this style of argument to a different department of professional activity. The Rev. Dr. Howard Crosby never studied in a theological seminary, and even received the degree of D.D. from Harvard College before he had been ordained. By a parity of reasoning with that of Dr. Maddox it is idle for a church, in the selection of its pastor, to ascertain or inquire whether or not a candidate be specially educated in theology, since such a brilliant orator as Dr. Crosby has for a quarter of a century filled with complete acceptability and success an important pulpit in New York City.

Then, too, there are "natural bonesetters," who—in rare instances—are eminently successful in reducing fractures. Hence, forsooth, we should not approve any scheme whereby an educated surgeon affixes M.D. to his name as an evidence of the study and experience which the "natural bonesetter" had no opportunity to acquire.

Dr. Maddox tells us "Vanity is an inherent quality, peculiar to man and the genus pavo." Perhaps it is unkind to inquire to what genus envy is peculiar.

A. W. Ferris, M.D.

Sanford Hall, Flushing, N. Y.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 1 to June 7, 1890.

Lauderdale, John D., Major and Surgeon, Fort Ontario, N. Y. Leave of absence granted for one month, to commence on or about June 1, 1890. Par. 4, S. O. 123, Headquarters Division of the Atlantic, New York City, May 27, 1890.

Dietz, William D., Captain and Assistant Surgeon. Granted leave of absence for one month. S. O. 131, par. 4, A. G. O., June 5, 1890, Washington, D. C.

Dietz, William D., Captain and Assistant Surgeon. Having completed at New York City the duties assigned him in Special Orders No. 29, April 30, 1890, Division of the Pacific, by direction of the Secretary of War, will return to his station in that Division. S. O. 129, par. 5, A. G. O., June 3, 1890, Washington, D. C.

McElderry, Henry, Major and Surgeon. Granted leave of absence for seven days, by direction of the Acting Secretary of War, to take effect upon the final adjournment of the Army Medical Examining Board. S. O. 127, par. 7, A. G. O., May 31, 1890, Washington, D. C.

Cleary, Peter J. A., Major and Surgeon. Granted leave of absence for six months, on surgeon's certificate of disability, by direction of the Secretary of War. S. O. 127, par. 4, A. G. O., May 31, 1890, Washington, D. C.

Willcox, Charles, First Lieutenant and Assistant Surgeon. Granted leave of absence for ten days, with the approval of the Secretary of War. S. O. 126, par. 16, A. G. O., May 29, 1890, Washington, D. C.

Official List of Changes in the Medical Corps of the United States Navy for the week ending May 24, 1890.

Crandell, Rand P., Assistant Surgeon. Ordered to the Naval Hospital, New York.

Berryhill, Thomas A., Passed Assistant Surgeon. Detached from Hospital, New York, and ordered to Hospital, Mare Island, Cal.

Anderson, Frank, Passed Assistant Surgeon. Ordered to special duty in the Bureau of Medicine and Surgery.

Van Reyper, W. K., Medical Inspector. Ordered to New York on special temporary duty.

Kite, J. W., Passed Assistant Surgeon. Detached from Naval Hospital, Pensacola, and to Hospital, New York.

Craig, Thomas C., Passed Assistant Surgeon. Detached from Naval Hospital, New York, and to the Vesuvius.

Anderson, Frank, Passed Assistant Surgeon. Granted leave of absence for the month of June.

Ogden, F. N., Assistant Surgeon. Ordered for examination preliminary to promotion.

White, S. S., Assistant Surgeon. Ordered for examination preliminary to promotion.

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Original Articles.

TREATMENT OF DIARRHŒA IN EARLY LIFE.[1]

BY HENRY DWIGHT CHAPIN, M.D.,

PROFESSOR OF DISEASES OF CHILDREN AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL, AND AT THE WOMEN'S MEDICAL COLLEGE OF THE NEW YORK INFIRMARY; ATTENDING PHYSICIAN TO THE DEMILT DISPENSARY.

THE proper management of common diseases is the daily problem of the practitioner of medicine. No subject is so trite or old to him but that a free discussion by his colleagues may throw some light upon it. It is well occasionally to stop and take account of our therapeutic stock, particularly in reference to every-day diseases. Perhaps no affection is so frequently encountered as the diarrhœa of infancy and early childhood. It is the potent cause of the high mortality in our cities during the summer season, and, as such, is a subject of constant solicitude and careful study on our part. As this mortality is largely, if not almost entirely, among artificially fed infants, the dietetic treatment assumes the first importance. All the recent advances in infant feeding have come from a close study and imitation of nature. As soon as bacteriology shows that human milk, as it comes from the breast, is absolutely sterile, and that cow's milk kept from twelve to twenty-four hours is full of bacteria, we understand why the latter so often disagrees with the infant. The method of sterilizing, as between boiling and steaming, is a point of some interest. Prolonged boiling of milk, while destroying the germs, produces other changes, such as the formation of a scum on contact with the air, consisting of coagulated albumin with a small modicum of fat. According to Dr. Townsend boiling expels about three per cent. of CO_2, N. and O. which may explain the flat taste of milk so treated. Unless the boiled milk is hermetically sealed, fresh germs of course gain access, and the good effects of sterilization are lost. Soxhlet's well-known apparatus, by means of which bottles with perforated rubber stoppers are immersed in boiling water, and then sealed by glass plugs, was the first practical step toward obviating this difficulty. This apparatus, however, is cumbersome and somewhat expensive, and in my hands has failed to thoroughly sterilize the milk, at least when following the printed directions. Thus the milk would frequently become sour in two or three days, showing an imperfect degree of sterilization. Sterilization by steam appears to be more thorough and complete than that effected by boiling in water. For the past year I have used the Arnold steam cooker, both at the Babies' Wards and in private practice, for the purpose of sterilizing milk, with much satisfaction. By this apparatus milk is brought to the temperature of live steam, and maintained at this uniform temperature for a certain length of time. Dr. Cheesman, who first called attention to the cooker as an efficient sterilizer of milk, noted the fact that boiling for a certain length of time in a vessel, the sides of which are exposed to the air, is not efficient, as the temperature in different parts of the vessel is found to vary considerably. This constitutes the main objection to Soxhlet's apparatus, the principle being that of a water-bath, while in the cooker we have a steam bath, in which any variation of the temperature is prevented. The printed circulars advise that the milk be heated from thirty to forty-five minutes. This period of time, however, is not sufficent to sterilize the milk very effectually, as it is apt to become sour in a few days. In a series of trials I have found that fully an hour and a half is necessary to sterilize the milk with any thoroughness, as it will then keep sweet for several weeks. If it is desired to preserve the milk for a longer period, it can be resterilized after a certain interval of time. Thus a bottle of milk that I sterilized on September 10, 1889, and resterilized on September 21, 1889, was opened on April 15, 1890, and found not to have turned sour. The Arnold cooker has the advantages of being comparatively cheap and easily managed. No complicated cork is employed, but simply a plug of ordinary cotton. An ordinary double boiler makes an efficient sterilizer, as I have proven by trial. This is to be found in many kitchens and can be procured at a small cost. The bottles of milk, after being plugged with cotton, are simply placed in the upper receiver, and the boiler put upon the stove for a suitable time. I have kept milk sweet for several weeks in this way, and believe this will prove one of the simplest and cheapest methods of sterilization. Simplicity and economy are elements extremely important in reference to sterilization, as the necessity of this procedure is greatest among the poor and inefficient. Even if a complicated apparatus could be procured, they would be unable to use it. I have occasionally sterilized milk by placing the bottles, with cotton stoppers, in an ordinary oven. It is important to sterilize the milk as soon as possible, as there are so many sources of contamination—first in the milking, and then in the transportation and transfer—by which germs may gain access to it. We are told that germs increase with great rapidity, many of them doubling every half hour, so that the necessity of early sterilization can be appreciated. If fermentation has well begun in milk, sterilization may not be very thorough or effectual. The milk, as ordinarily received, differs as to its exact condition from day to day, and hence varies in keeping qualities after having been subjected to prolonged heat. During the past year I have kept at least one bottle daily that has been sterilized at the Babies' Wards, and noted when it has spoiled. The following are taken from the records:

Sterilized.		Spoiled.	
1889—September	9th	September	29th.
"	15th	"	20th.
"	18th	October	25th.
1890—February	11th	April	11th.
"	22d	March	12th.
March	3d	April	12th.
"	22d	March	26th.
"	26th	April	3d.

I have copied these as showing occasional great variations, evidently caused by the different condition of the milk when received, as the same length of time is daily employed in sterilization and uniform care and cleanliness employed.

While the excellent effects of sterilization in the prevention of the decomposition of milk have been noted by all, the secondary effects of prolonged heat upon the ingredients of the milk do not seem to have attracted so much attention. This shows a danger of bacteriological study in overlooking factors that exist aside from microbes. Milk is a vital fluid, which may be affected by various influences, such as prolonged motion or oscillation, extreme heat, etc. It is upon the caseine especially,

[1] Read before the Medical Society of the County of New York, April 28, 1890

as this is the most offending substance to the infant's digestion, that the effects of great heat should be studied.

In the preparation of condensed milk excessive heat may swell up the albuminoids, and one of the methods of adulterating this article consists in thickening it by superheat, and hence being able to leave out a certain proportion of cream. It would hence seem possible that the continuous heat necessary for sterilization might toughen the curds, and hence render cow's milk more difficult to digest. Wishing to study this question I instituted a number of experiments, carefully comparing the character of the curds formed in sterilized and plain milk upon the addition of various reagents. In each case 10 c.c. of milk and 2 c.c. of the reagent were mixed together, and the effect noted first in the cold, and next upon warming over a water-bath.

Cow's Milk.

Reagent.		In the Cold.	In the Warm.
Dilute nitric acid.	Plain cow's milk.	Large curds, somewhat leathery, and lumping together.	Smaller curds, more separate.
	Sterilized cow's milk.	*Small* curds, not lumped together.	Same as in the cold.
Dilute sulphuric acid.	Plain cow's milk.	Curds similar to those formed by nitric acid.	Action same as nitric acid.
	Sterilized cow's milk.	Curds similar to those formed by nitric acid.	Action same as nitric acid.
Dilute lactic acid.	Plain cow's milk.	Soft lumpy curds.	Soft curds, more separate.
	Sterilized cow's milk.	*Small* curds, not lumpy.	Same as in the cold.
Dilute hydrochloric acid.	Plain cow's milk.	Large curds, confluent.	Smaller curds.
	Sterilized cow's milk.	Curds not large, but more confluent than with other acids.	Same as in the cold.
Artificial gastric juice.	Plain cow's milk.	Very soft curds.	Same as in the cold.
	Sterilized cow's milk.	No appreciable change.	Same as in the cold.
Bichloride of mercury, 1 to 16.	Plain cow's milk.	No appreciable change.	No appreciable change.
	Sterilized cow's milk.	No appreciable change.	A jelly-like coagulum of all the milk.

In glancing at this table it will be noticed that the addition of the various reagents produced larger and more confluent curds in plain milk than in sterilized milk, but the addition of heat in the former case, to a certain extent, broke up these large curds into smaller ones. The smaller separate curds of the sterilized milk did not, however, appear to be affected by warming. The continued heat to which the milk had been subjected in sterilization seemed to have produced all the change possible by this agent. The only exception to this was seen upon warming the sterilized milk to which the bichloride of mercury solution had been added, when, to my surprise, the apparently unchanged milk became transformed into a jelly-like coagulum.

Weaker solutions of the bichloride were then tried; 1 to 80 and 1 to 130, and found to produce no appreciable effect upon plain milk nor upon sterilized milk in the cold; but upon warming the latter firm clots were formed, varying in size according to the strength of the solution. A strength of 1 to 160 showed no appreciable change upon warming the sterilized milk. The prolonged heat necessary for sterilization evidently induced some alteration in the albuminoids that made them readily acted on by the mercury. An examination of the clot formed by the 1 to 80 solution, under the microscope, showed many fat globules entangled in masses of the albuminoids. As bichloride of mercury is not infrequently given in diarrhœa, it may be worth querying whether any such change would be produced in the body when sterilized milk is also administered. Wishing to see whether other antiseptics had any effect upon sterilized milk, I made tests with the following drugs: Naphthalin, 2½ per cent.; salicylate of soda, five per cent.; creasote (wood), five per cent.; boric acid (1 to 8), salol (saturated with sod. bicarb.), and found no appreciable change in plain or sterilized milk, in the cold or warm.

In order to compare the action of human milk with that of cow's milk under similar conditions, I procured a supply of the former and kept it for about eight hours, when part of it was sterilized. The following reagents were then added:

Human Milk.

Reagent.		In the Cold.	In the Warm.
Dilute lactic acid.	Plain human milk.	No appreciable change.	No appreciable change.
	Sterilized human milk.	No appreciable change.	No appreciable change.
Dilute hydrochloric acid.	Plain human milk.	No appreciable change.	No appreciable change.
	Sterilized human milk.	No appreciable change.	No appreciable change.
Artificial gastric juice.	Plain human milk.	No appreciable change.	Small soft curds.
	Sterilized human milk.	No appreciable change.	No appreciable change.

It is thus seen from these experiments, performed outside the body, that the prolonged heat necessary for sterilization has a tendency to make the caseine coagulate in smaller clots, but that there is still a very appreciable difference in the clot of cow's and human milk. The effect of sterilization upon the fat appears to be to collect it in rather larger globules. I have often noticed flakes of fat in nursing-bottles containing sterilized milk. Before administering the former it should be warmed and thoroughly shaken, in order to split up the fat as much as possible. Sterilization partially or completely coagulates the albumin, as shown by the following experiment: A portion of plain and sterilized milk was shaken with pure ether and allowed to stand, when it separated into three layers, the top being an ethereal solution of fat, the middle containing caseine, sugar of milk, and mucin, and the lowest layer holding the albumin. Examining the last layer under the microscope showed nothing in the case of plain milk, but amorphous masses of coagulated albumin in the sterilized milk.

I have tried a series of experiments upon dogs with gastric fistulæ, feeding them upon plain milk and sterilized milk, and withdrawing the contents of the stomach after an interval of ten minutes. The result of these trials was negative.

While sterilization is a great step in advance, it has by no means solved the question of infant feeding, as some seem to think. We still have to deal with a portion of indigestible caseine. In cases of diarrhœa the attenuation of this caseine by barley or wheat flour, clinically will often give good results. It is desirable to change as much of the starch into dextrin as possible before using these flours as attenuants. This may be accomplished by prolonged boiling in a tight bag. I have lately used the Arnold sterilizer and the double-boiler for the purpose of subjecting the flour to continuous heat at a high temperature. When the flour has been subjected to heat for a week, and a thin gruel made, and used to properly dilute the cow's milk, according to the age of the infant, an improvement in the character of the stools will often be noted. Where vomiting is present, the use of lime-water in large amount, as a diluent, is beneficial. I have used sterilized milk, thin gruel, and lime-water, one-third each, with a little sugar of milk and cream, with good results in many of these cases. Salt is always added to the bottle. At times it appears impossible for an infant to retain or digest milk in any form during an attack of diarrhœa. No matter how the milk is diluted or predigested, the irritable gastro-intestinal tract will not tolerate it. In such a case it is obviously best to stop milk completely for twenty-four or forty-eight hours. This was my treatment last summer at the Babies' Wards in diarrhœa with pronounced milk indigestion. During this interim nourishment was administered in the form of ex-

pressed beef-blood, with all traces of fat carefully removed, and diluted about five times with water, and the white of a fresh egg stirred in a cup of water, or cold barley-water. The importance of administering plenty of fluid in these cases is emphasized by the rapid shrinking of tissue in infantile diarrhœa. Particularly in hot weather a certain restriction in the administration of milk is often necessary. The heat causes a continual rapid evaporation from the skin, and, as a result of this fluid loss, the watery parts of the food are quickly absorbed to make up the deficiency. The thirst naturally produced by the heat causes the baby to wish to nurse or take the bottle very frequently, and when the watery part of the milk is taken up by the vessels, the thickened, solid part remains as a fruitful source of indigestion and diarrhœa. The free use of water, both internally and externally, will do much to ward off the summer diarrhœa of infancy. Stimulation in the shape of whiskey, administered in larger or smaller dose, according to the needs of the case, is recognized by all observers as a valuable therapeutic agent.

From the fact that masses of indigestible matter so frequently produce and keep up the diarrhœal condition, washing out of the stomach to rid that organ of the offending substances, and hence remove the source of irritation, although first advocated in Germany, has found many warm adherents in this country. The emphatic recommendation of the gentlemen employing and advising this procedure has led me to give it quite a considerable trial. The experience I have thus derived, which includes a summer at the Babies' Wards, leads me to the conclusion that stomach-washing, while very serviceable in a restricted number of cases, is by no means of such wide-reaching value or efficacy as would appear from the published reports. While accepting the good results of those who employ this procedure, it seems to me that equally beneficial results can be obtained, in the majority of cases, by milder measures. A broad division may be made of our cases into acute and chronic, the former including indigestion, ordinary summer diarrhœa, and cholera infantum, and the latter the persistent indigestion and malassimilation that are included in the term marasmus. In cases of acute indigestion and diarrhœa I have obtained fairly good results from stomach-washing, but in bottle-fed babies, where long continued malassimilation and atrophy are present, it has failed as signally as most other agents, in my hands. A glance at the theory underlying stomach-washing may aid us in deciding how far to apply it. As a rapid way to empty the stomach of undigested and irritating masses of food it is certainly effectual. It is a question, however, whether it has any advantages in this respect over the old-fashioned emetic. The offending substance in artificially fed infants is the caseine, which by coagulating in tough curds induces and keeps up a diarrhœa. Recognizing this fact, these curds are washed out of the stomach so that they cannot act as ferments upon the next supply of milk that is soon to be administered. But is not this beginning at the wrong therapeutic end? We are giving a food that the infant is unable to digest, and then, after a certain interval of time, pumping it out, before administering a fresh supply of the same kind of nourishment. In bottle-fed babies with diarrhœa the best results will often be obtained by stopping milk entirely for twenty-four or forty eight hours, during which time the expressed beef-blood and water and the egg-water may be administered, thus giving the irritated digestive organs an entire rest from grappling with the toughened curds of cow's milk, that are the source of most of the trouble. This would seem rational, and it certainly has proved in my hands as successful as keeping up the milk and washing out the curds. After the interval of rest, milk properly diluted may cautiously be commenced, taking care not to give it too frequently at the start. The necessity of stomach-washing may thus be obviated in a large proportion of the cases of acute milk indigestion and diarrhœa. In a certain number of cases of persistent vomiting, caused or accompanied by an undue amount of mucus in the stomach, a single stomach-washing will often stop the vomiting, and, with careful regulation of diet, the case will go on to recovery. The thorough cleansing of the stomach appears to give it a fresh start. When the caseine is not digested by the stomach, the hard curds will be passed in greater or less degree into the bowel, and continue here a fruitful source of trouble. On the same principle that the stomach is washed out, thorough irrigation of the bowel has been recommended for the removal of the irritating agent. But in the great majority of cases those natural emunctories, the intestinal glands, if mildly stimulated at the beginning of the attack, will accomplish all the washing out that is necessary. Hence the well-known efficacy of small doses of calomel, or the time-honored castor-oil given at the starting of diarrhœa, to hasten recovery. When the intestine has thus been emptied of offending masses, frequently all that is necessary is a most careful regulation of diet to prevent a continuance of the indigestion and diarrhœa. The strenuous advocates of stomach-washing and irrigation do not rest their case, however, upon the value of these proceedings in removing undigested and fermenting food alone, but also in cleansing the gastro-intestinal tract of various germs. We must hence glance at the bacteriological argument before completing our estimate of this therapeutic agency. While there is somewhat to commend stomach and intestinal irrigation from the point of view of undigested food, it seems to me the theory has a rather slender basis in regard to bacteria. That the mouth and pharynx harbor many bacteria is certain, and a large number are constantly ingested with the food. Most of these microbes are innocuous, or are rendered so when they reach the stomach, by the acid gastric juice.

Bacteria, we are taught, require an alkaline medium in which to develop. Even if the bacteria in the stomach were harmful, it would be exceedingly difficult to get rid of them by washing, as they collect in the folds of the mucous membrane and mouths of the follicles, and hence are difficult to entirely dislodge. To completely cleanse the stomach of them would require repeated washings and distention of that organ, which, according to theory, should be employed before each feeding, so that the incoming food need not be contaminated. But if it is thus difficult to cleanse the gastro-intestinal canal of ordinary bacteria, what shall we say of the utility of irrigation in the case of specific pathogenic germs that penetrate the mucous membrane, and hence are largely out of reach of washings? And yet stomach-washing has been strongly advised in the treatment of cholera infantum that is supposed to be due to the growth and development of germs in the intestinal mucous membrane. I have thus dwelt upon the subject of stomach-washing and irrigation, as they have suggested themselves to my thought and experience, because it has always seemed to me that heroic therapeutic proceedings should be avoided as much as possible in early life. If necessary, the most vigorous measures should fearlessly be employed by the physician, but if the same results can be attained by milder means, the latter are much to be preferred. A sledge-hammer will successfully drive in a tack, but so will a tack-hammer, with less general effort and disturbance. Stomach-washing is very disagreeable to the infant, and distressing to the mother, who can hardly be persuaded that her infant is not in danger of choking. Hence, as the same results can generally be attained in other ways, it is not often necessary to resort to it. The question may fairly be asked, whether any harm can come to the infant from washing out the stomach? As far as my own experience goes, I can answer this in the negative, with the exception of cases accompanied by much weakness or prostration. In the latter instance the passing in the tube and distending the stomach with water may provoke dangerous, if not fatal, syncope. One such accident happened to me, when a feeble infant, in an advanced stage of marasmus, suddenly died during stomach-washing. The

autopsy showed a flabby heart and stomach, and an atrophic condition of all the organs. My own judgment had been against stomach-washing in such a case, but as its safety had been strongly advocated, and its efficacy upheld in cases of marasmus, I felt like giving it a trial in these forlorn subjects. In some cases I have seen good results from injecting a quantity of starch-water, in which some subnitrate of bismuth has been rubbed up, well into the bowel. The infant is placed upon the left side, and from two to eight ounces slowly injected, according to its age and the tolerance of the bowel. In some cases a soft rubber catheter may be employed, in order to get the fluid a greater distance into the bowel. The object of this irrigation is to place a soothing, emollient fluid in contact with as much of the irritated or inflamed bowel as possible.

The greater attention that is paid to the hygienic and dietetic management of infantile diarrhœa, the less will be the need of purely medicinal treatment. Still very much good can be accomplished by a proper use of drugs. Some favor the so-called antiseptic method of treatment, which aims to check fermentation along the intestinal tract by the administration of antiseptic drugs. This is somewhat of a misnomer, since it is impossible to render the intestinal canal antiseptic. While good effects may be obtained by the use of these antiseptic agents, we must not lose sight of the fact that, as a rule, they are more or less irritating in character. Bichloride of mercury, salol, and naphthalin may be mentioned as types of this class. After giving them a trial, I have always returned to one drug, subnitrate of bismuth, that is worth more than all the others put together. While the bismuth may not be so strongly antiseptic, it more than makes up for this lack by being *soothing*. It is not absorbed, and, hence, can safely be given in large doses. The excessive irritation of the mucous membrane, a most important factor in keeping up a diarrhœa, is thus partially remedied. The addition of pepsin will assist in the further recovery, by aiding digestion.

The use of alkalies is theoretically indicated in many of these cases, and practically is attended by good results. The principal seat of catarrhal lesion in many cases of diarrhœa is the small intestine, which is congested and contains an undue amount of mucus, together with particles of undigested food. Moreover, this portion of the gut, that so urgently needs cleaning and attention, is entirely out of reach of washes, either by stomach or rectum. This being the case, we must aim to neutralize acidity and liquefy the mucus by the free administration of bicarbonate of soda or other alkalies, usually in combination with the bismuth. Some forms of subacute diarrhœa and indigestion are improved by the administration of small doses of dilute muriatic acid, which serves to aid digestion and tone up the mucous membrane. The bismuth and pepsin can be combined with the acid to form one prescription. It is not infrequently difficult in a given case of indigestion to tell whether an alkaline or acid mixture had better be administered. Sometimes the only way to make sure is to give both a trial; if one fails, the other may succeed. There appears to be somewhat of a reaction against the prescribing of opium in cases of infantile diarrhœa. Doubtless this has proceeded from an indiscriminate use of this powerful agent. If the bowels are locked up by an opiate, and still contain masses of undigested food, the results will be disastrous. Still there are cases in which a glandular irritation of the intestine persists after the bowel has been cleared and a proper diet substituted. The astringent and sedative effects of small doses of opium will be here very valuable. While it may not often be necessary to use opium, if other indications are carefully followed, this agent may yet be held in reserve and serve a useful purpose. In the severer forms of infantile diarrhœa the administration of alcohol, in the form of whiskey or brandy, is esteemed by all. By thus beginning early in the attack to steady the heart and revive the patient, the danger of spurious hydrocephalus later on will be reduced to a minimum. If there begin to be signs of drowsiness, with a weak heart, aromatic spirits of ammonia may be added to the free use of whiskey. In the brief sketch here offered no attempt has been made to go into the classification or pathology of diarrhœa, as this would open up too broad a subject. The object has been rather to outline the general plan and scope of treatment of cases that we are constantly seeing, for the purpose of evoking a free discussion and interchange of views. Among the careful observers and workers here assembled a discussion of different ideas and modes of treatment cannot fail to be of much value. To sum up, the following plan of treatment has commended itself to my judgment and experience: Careful sterilization of the milk, with proper dilution and attenuation. If, in spite of this, the milk will not digest, but continues to irritate, it is entirely stopped for a season and beef-blood or egg-water substituted. Stomach-washing is very rarely employed, but the gastro-intestinal tract cleared of indigestible masses at the beginning by small doses of calomel or other unirritating laxative. Occasionally the lower portion of the bowel is irrigated with bismuth and starch-water. The principal internal medication consists in the administration of large and frequent doses of bismuth, to which pepsin or other agents to aid digestion may be added. Stimulation by alcohol. In cases that tend to become chronic, in spite of properly regulated diet, the cautious administration of small doses of opium. In all cases a careful restriction of diet, but a free allowance of water.

27 West Fifty-first Street.

A STUDY OF THE HYGIENIC CONDITION OF OUR STREETS.

By CHARLES N. DOWD, M.D.,
NEW YORK.

During the last few months the making of subways for electric wires and the relaying of gas- and water-pipes have occasioned a very unusual upturning of the streets in this city. This has called forth many popular protests, many complaints that the upturning of so much earth, the liberating of so much bad-smelling gas, and the spreading of so much dust and dirt are injurious to public health. It is the purpose of this paper to discuss the true sanitary influence of this upturning of earth in the streets.

Is it really injurious to public health? If so, in what way does its influence act? There are two ways in which it may be supposed to be injurious:

I. By the liberating of disease-germs which were contained in the soil.

II. By the deleterious effect of disagreeable odors and of dust and dirt which do not contain disease-germs.

Let us consider these two ways in turn.

I. If disease germs exist in the soil they would be scattered with the dust which comes from the upturned soil as it dries, and so would have abundant access to the body. We must, therefore, study the bacterial content of the soil.

Ordinarily there are hundreds of thousands of bacteria in each cubic inch of soil at the surface. This number diminishes below the surface, so that at a depth of eight or ten feet there are hardly any. Just what the life-history of these forms is we do not know; many of them exist in the soil in the form of spores. When placed in nutrient gelatine they grow in great profusion. Most of them are probably harmless when introduced into the human body; but the bacilli of tetanus, typhoid fever, and cholera have been found in the soil.

In order to study these earth bacteria, small measured portions of earth are mixed in sterilized water so as to thoroughly disseminate the particles, nutrient gelatine is then poured over the mixture and the bacteria allowed to grow in it. A little colony of bacteria grows from each bacterium which is capable of developing in this gelatine.

Number.	Date.	Gaseous Earth. Locality.	Number of bacteria per c.c.	Non-gaseous Earth. Locality.	Number of bacteria per c.c.
	1889.				
1	October 8th.	East Fifty-ninth Street near Third Avenue.	17,675	Seventy-second Street near West End Av., south side.	43,100
2	October 8th.	East Fifty-ninth Street near Park Avenue.	17,950	Seventy-second Street near West End Av., north side.	78,075
3	October 30th.	East Fifty-ninth Street near Fifth Avenue.	157,200	Seventy-second Street and Riverside Drive.	48,450
4	October 30th.	East Fifty-ninth Street near Madison Avenue.	131,100	Tenth Avenue near Sixty-second St., middle of street.	32,200
5	November 5th.	Eighth Avenue and Fifty-seventh Street.	29,700	Fifty-ninth Street near Grand Circle, sidewalk.	128,300
6	November 7th.	Tenth Avenue and Sixty-fifth Street.	29,250	Sixty-third Street bet. Tenth and Eleventh Avenues.	35,350
7	November 12th.	Eighth Avenue near Fifty-sixth Street.	8,585	Sixty-third Street near Tenth Avenue.	51,300
8	November 14th.	Eighth Avenue and Fifty-fifth Street.	3,800	Sixty-seventh Street bet. Tenth and Eleventh Avenues.	22,350
9	November 18th.	Fifty-ninth Street and Sixth Avenue.	10,690	Eleventh Avenue, sidewalk near Sixty-second Street.	11,850
10	November 20th.	Fiftieth Street and Eighth Avenue.	267	Open field, Eighth Avenue near Fifty-fourth Street.	13,050
11	November 23d.	Sixth Avenue near Fifty-eighth Street.	33,150	Tenth Avenue and Sixty-fifth Street.	16,800
12	November 26th.	Seventh Avenue and Fifty-fourth Street.	15,250	Sixty-fifth Street near Eleventh Avenue.	9,850
13	November 26th.	Seventy-first Street near Eighth Avenue.	20,150	Sixty-fifth Street near Tenth Avenue.	19,400
14	December 2d.	Forty-ninth Street and Eleventh Avenue.	24,900	Park subway, Ninety-seventh Street.	67,000
15	December 4th and 5th.	Third Avenue near Forty-second Street.	28,850	106th Street and Eighth Avenue.	35,250
16	December 4th and 5th.	Third Avenue near Forty-second Street.	67,500	Eighth Avenue and 108th Street, sidewalk.	17,050
	Average.....		37,243	Average.....	39,873

To ascertain the number of bacteria which were in the specimen, we count the colonies.

To ascertain their characteristics, further cultivations must be made, the bacteria must be planted in various culture media and exposed at different temperatures, and they must be inoculated in different kinds of animals.

The labor of separating each variety and studying it thus in detail would be stupendous—it would be somewhat like going into a forest filled with unknown vegetation and attempting to describe all the peculiarities of each group of plants.

Hence bacterial earth examinations have largely been confined to the determination of the number of bacteria, not to the peculiar kinds.

In determining the significience of such examinations we must remember the following facts :

1. The number of bacteria does not necessarily indicate the number of disease-germs. Most of the disease-germs as yet discovered are bacteria, and the study of bacteria as a class bears on the subject of pathogenic bacteria; but pathogenic bacteria do not necessarily exist where the other ones do.

2. Small specimens of earth may show marked variations in the number of bacteria owing to minor local influences.

3. There may be certain bacteria which are injurious in the body but which do not grow in gelatine, and these, of course, would escape observation.

In order to gain data which apply to the especial soil under consideration I have made a series of comparative bacterial examinations. The ditches which give the strong odor of gas are the ones which the people most fear; they force themselves upon us by the very offensiveness of the odors which come from them and their suggestions of uncleanliness and disease. I have therefore compared sixteen specimens of gaseous-smelling earth from these ditches with sixteen similar specimens from ditches far removed from the gas mains, where there was no odor of gas. The conditions have been as nearly identical as possible in all respects excepting the presence of the gas. All the specimens were taken from new ditches and were examined immediately. The two specimens for each comparison were taken at about the same depth, usually twenty-four inches, and were taken on the same day, excepting in Nos. 15 and 16, where one day intervened between the taking of the gaseous and the non-gaseous earth.

The technique was based on that recommended by Fränkel[1] and Reimers.[2] In each test $\frac{1}{25}$ c.c. of earth was used. The work was done in the bacterial laboratory of the Alumni Association of the College of Physicians and Surgeons, New York City, with the strict precautions which are necessary in bacterial work. The studies were comparative, and the same technique, in all details, was used for the specimens compared, hence the liability to technical errors was reduced to the minimum.

The records of the earth examinations are given in the above table. All examinations were duplicated for control, but the duplicates corresponded so closely with the others that they are not inserted in the table.

In this table the variations in the individual results is very noticeable. Results of this kind must be expected in bacterial earth examinations, they may be due to differences which only extend through very small portions of earth.

The result of a single examination is therefore of little importance. We can only reason from the combined results of a large number of examinations.

The averages 37,243 and 39.873 are almost exactly the same, so that from these results we cannot argue that there is any difference in the number of bacteria in gaseous and non-gaseous earth.

I isolated and studied several species, but found them the same in gaseous and non-gaseous earth, excepting in one instance where I found the tetanus bacillus. It was found in non-gaseous earth, and was verified by being carried through six generations by inoculation in mice.

Effect of Passing Gas through Earth.—To further test the effect of illuminating gas on bacteria I made another series of experiments by passing it through earth in sterilized cotton-plugged glass tubes, and counting the bacteria before and afterward. To prevent the undue drying of the earth the gas was first passed through water which was slightly warmed.

The results of these tests may be tabulated as follows :

	Number of Experiments.							
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.
Number of bacteria per c.c. before exposure to gas.	55,550	51,300	22,350	11,850	15,050	9,850	19,400	6,700
Number of days of exposure to gas.....	2	2	1	5	4	6	6	5
Number of bacteria per c.c. after exposure to gas.	19,985	33,050	162,300	5,400	7,788	12,825	70,700	32,705

As a further control of these results other specimens of the earth used for Nos. III., IV., and V. were examined after they had lain in cotton-plugged flasks in the laboratory, unexposed to gas, for three, five, and six days respectively; they gave 17,300, 10,500, 7,300 bacteria per c.c.—a diminution in every case.

If we now study these results we find that there was a diminution in the number of bacteria in one-half the cases and an increase in one-half. In one case, No. VIII., where this increase was especially great, the earth was very damp when put in the tube, and in general we think the conditions of heat and moisture had much influence.

There is no evidence that the gas had any influence on the bacteria in the earth in the tubes.

[1] Carl Fränkel: Untersuchungen über das Vorkommen von Mikroorganismen in verschiedenen Bodenschichten, Zeitschrift für Hygiene, ii., 1887, S. 521.

[2] John Reimers: Ueber den Gehalt des Bodens an Bacteria, Zeitschrift für Hygiene, ii., 1889, S. 307.

Effect of Gas-permeated Water on Typhoid Bacilli.—To still further test the action of gas on bacteria I made a third series of experiments by placing typhoid bacilli in gas-permeated water.

One-half pint of water was sterilized and gas from the city gas system was passed through it one month for series I., II., and III., and twenty-two days for series IV. The ingress of bacteria was prevented by sterilized cotton in the tubing. Mixtures of fresh growths of "bacillus typhosus" were then made in water, and their number determined by counting the growths from so much of the mixture as could be withdrawn by one dip of a given fine platinum wire-loop.

Similar quantities of the mixture were then put in the gas water, 2 c.c. for each. They were left there stated times, and then planted in gelatine and the growths counted. Duplicate estimations were made each time for control. The gas water was planted in gelatine and found to be sterile before it was used.

The results of the four series of observations may be tabulated thus :

Table showing the Effect of Gas-permeated Water on Typhoid Bacilli.

	Number of Experiments.			
	I.	II.	III.	IV.
Number of bacilli planted	68,280	21,120	10,420	13,600
Exposed to gaseous water, ½ hour	32,544	18,440	.....	3,280
" " " " 1 "	.....	.....	.....	1,896
" " " " 2 hours	.....	.....	300	21,212
" " " " 3 "	10,800	.....	.....	7,990
" " " " 4½ "	.....	212	.....	.....
" " " " 10½ "	.....	.....	.....	.....
" " " " 24 "	4,160	.....	2,820	848

This shows a diminution in bacteria under the action of the gaseous water, but the diminution is not much more marked than that shown in water itself in the tests made by Prudden,[1] M. Meade Bolton,[2] Wolffhügel and Reidel,[3] Straus and Dubarry.[4]

If we now compare the results of the three series of observations, we find that they give no reason for believing that the gas has a very marked effect on the bacteria in the soil. The number of observations is not large, and our only available methods of observation leave a large margin of variation; still, so far as they go, they lead us to think that the illuminating gas neither increases nor diminishes the number of bacteria to any marked degree.

Since we find no marked difference in the bacterial content of gaseous and non-gaseous earth, we must consider the effect of upturning the earth without reference to the gas.

So long as the soil is wet it cannot spread the bacteria in the air; but the soil does not long remain wet. It dries beside the ditches, it adheres to the implements, the clothes and boots of the workmen, to the planks and the wagons, and, in fact, to everything which comes in contact with the ditches; and, finally, much of it is left on the surface when the pavement is relaid.

In all these conditions it may be carried away as dust. The bacteria go with the dust, and access to the body is then made easy.

The amount of dust is certainly much increased by these ditches; but, on the other hand, the deeper layers of earth from which this dust comes do not contain nearly so many bacteria as the surface layer.

Grancher and De Champs,[5] in filtering water containing typhoid bacilli through the soil, found no bacilli lower than twenty inches.

[1] Prudden: On the Germicidal Action of Blood-serum and Other Body Fluids, New York MEDICAL RECORD, January 25, 1890.

[2] Ueber das Verhalten verschiedener Bacterienarten im Trinkwasser, Zeitschrift für Hygiene, i., 1886.

[3] Die Vermehrung der Bacterien im Wasser, Arb. des k. Gesundheitsamt, i., 1886, ref. Archiv. de Méd. exp. et d'Anat. path., i., 1889.

[4] Recherches sur la durée de la Vie des Microbes pathogenes dans l'Eau, Arch. d. Méd. exp. et d'Anat. path., i., 1889.

[5] Recherches sur le Bacille typhique dans le Sol, Archives de Médecine expérimentale et d'Anatomie pathologique, January, 1889.

Observers have uniformly reported a marked diminution in the number of bacteria in the lower layers, and Reimers found that they were also less vigorous in growth.

Hence, although the ditches must increase the spread of bacteria, this increase cannot be as great as the increase in dust.

Whether they increase malarial disease we do not know, but there is very little malaria reported from people who live in New York. Moreover, it is believed that the organism which causes malaria belongs to a different class from those here considered, and other kinds of experiments would be necessary in studying them.

Conclusions Concerning Bacteria.—We think that the spread of disease-germs may be increased by this upturning of the streets, but we cannot think that this increase is very dangerous.

II. Let us now consider the second influence which these excavations may have, viz., the reducing the tone of the system by disagreeable odors, and by the spread of dust and dirt not containing disease-germs.

The subject of hygienic surroundings is no less important because it is indefinite. No one will deny that the air is more invigorating and wholesome in a well-selected spot in the Adirondacks than in the crowded streets of the lower part of our city. The crowding of the people together, and the consequent insufficiency of oxygen, the contaminating of the air from the odor of cooking, the tenement-house filth and garbage, and the general uncleanliness, all have their unwholesome effect. They do not necessarily produce active disease, but they debilitate the system. Hun[1] has recorded and referred to numerous cases where headache, digestive disturbance, and debility followed exposure to air contaminated from leaky sewers. Both reason and experience teach us to expect such a result. Now the filling the air with the odor of a gaseous ditch is certainly another element in the unwholesomeness of the city. If our houses and places of business were exposed to it for long periods it would be a very serious matter. When we see, for instance, the difference in the course of summer diarrhœa of children here and in the country, we feel that there is good reason for taking all possible precautions against every element which adds to the unwholesomeness of the city. A child who has been debilitated by bad hygienic surroundings has less vigor to resist summer diarrhœa than a child of equally good constitution who has not been so debilitated; if he must remain in these surroundings while suffering from the disease it is still worse. A man whose resisting power is unimpaired can grapple better with any exhausting disease than one who has been debilitated; the severe course of pneumonia in drunkards illustrates this. There are also results of animal experiments which bear on the question.

Charrin and Roger[2] inoculated with attenuated anthrax virus 8 white rats which had been thoroughly fatigued by running in a rotating cage seven hours a day for four days. They also inoculated 4 rats in a normal condition. Seven of the tired animals died of anthrax, while all the others survived.

Trudeau[3] inoculated 10 rabbits with tubercle bacilli; 5 of them he turned loose on an island where they were in the open air and were well fed; 5 he put in a box in a dark cellar and studied them in the amount of food given. At the end of four months four of the rabbits which had been in the open air were killed; they showed no signs of tuberculosis but were remarkably fat and muscular. The fifth one died of tuberculosis one month after inoculation. Four of those in the cellar died of tuberculosis within three months; the fifth was killed after four months, he had far advanced tuberculosis.

[1] Sewer-gas Poisoning, Transactions of the Association of American Physicians, vol. ii., 1887.

[2] Revue Scientifique, quoted in Boston Medical and Surgical Journal, May 8, 1890.

[3] Environment in its Relation to the Progress of Bacterial Invasion in Tuberculosis, Transactions of the American Climatological Association, Philadelphia, 1887.

These experiments certainly show that the condition and surroundings of animals have an influence on their power of resisting disease. Clinical experience teaches us the same in regard to men. We should, therefore, take all due precaution to shut out debilitating influences. No one of us would wish to have a ditch dug in front of his office, which would fill it with the odor of gas-permeated earth for even a few days; not that it would bring on an attack of typhoid fever or diphtheria or any other severe disease, but it might cause malaise or digestive disturbance of such severity as to add one more element to those which lessen the resisting power of the system, and we may need all our resisting power at any time to throw off disease to which we have been exposed or to carry us through an exhausting illness.

We cannot take the position of alarmists in this matter. We do not expect that ditches in the street will cause an epidemic of any kind. We do, however, believe that the upturning of the streets increases in a moderate degree the liability to disease, both by the spreading of bacteria and by otherwise producing bad sanitary surroundings.

Mr. Stetson tells us, in the May *Scribner's*, that a "safe, clean, and smooth roadway and sidewalk is the right of every citizen." On sanitary grounds we have a right to claim from the city authorities that much care should be taken about allowing the streets to be upturned.

MULTIPLE ARSENICAL NEURITIS, WITH REPORT OF A CASE.

By HENRY S. STARK, A.B., M.D.,

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I AM desirous of placing this case on record, from the comparative infrequency of this particular variety of polyneuritis and the scarcity in medical literature of authenticated cases of a similar origin, and, secondly, because there is a belief among certain careful observers that the nervous symptoms following the ingestion of toxic doses of arsenic vary very materially in intensity, extent, and permanency, according to whether the poisoning has been sudden or gradual.

The fact that the exact pathology of this peripheral nerve lesion has only been ascertained within the last decade seems to offer a satisfactory explanation for our former inability to establish the relation of cause and effect between the different sets of nervous phenomena following the ingestion of poisons. While it is almost ancient history that paralysis, ataxia, sensory and trophic disturbances may follow the absorption of irritant poisons, it is only within a few years that these symptoms in certain cases have been attributed to lesions of the peripheral nerves.

I do not, however, intend to convey the idea that all cases of arsenical paralysis are peripheral in their nature, for there have been reported a number of cases by reliable authors which make it certain, judging from the clinical histories, that these paralyses may possibly owe their origin to anatomical changes in the central nervous apparatus. This conclusion cannot, unfortunately, be fortified by post-mortem examinations of the cord, for I learn, after a careful review of the current literature, that there are no autopsies on record; there are, however, on record a few autopsies which confirm the theory of a peripheral neuritis. Among contemporaneous writers who have reported cases of arsenical paralysis due to a myelitis are, Seguin [1] with three cases, Da Costa [2] with one, Mills [3] with one. It is, however, noteworthy that ever since multiple neuritis became recognized as a distinct affection, the number of cases of spinal origin has markedly diminished, while the tendency to-day is to regard these cases as of peripheral origin. Granting, then, or rather, assuming that paralysis due to toxic agencies may be peripheral or central in nature, it appears difficult to decide, owing to insufficient data, what factors determine whether the poison will affect the one or the other lesion. In the case of arsenic, clinical evidence has demonstrated that this idiosyncrasy does not depend upon whether the poisoning has been acute or chronic, or whether the poison enters the system by inhalation or ingestion.

In determining whether the paralysis following the use of arsenic is due to a spinal or a neural lesion, the clinical picture furnishes grounds for a presumptive diagnosis. A peripheral neuritis is highly probable if the onset of the trouble has been rapid and has been attended by fever and other manifestations of an acute inflammatory disease; if the sensory disturbances are more prominent, and earlier present than the motor; if the sensory and motor phenomena are localized to single symmetrical nerves or confined to sets of symmetrical nerves; if there is present a tenderness, elicited by finger pressure, along the course of the affected nerves or paralyzed muscles; if there is an area of anæsthesia corresponding to the region of distribution of the inflamed nerve or nerves. Additional information which speaks for a neuritis is the cheiropodal species of paralysis, the fact that the bladder and sexual organs are not involved, the immunity from bed-sores, the occasional presence of a complicating *neuritis optica*, and certain peculiar trophic symptoms, such as œdema, glossy skin, excessive perspiration of the affected limbs; finally, a tendency to recovery. A converse picture of the above, not necessarily in all but in several of its aspects, would arouse a strong suspicion of a myelitis.

The close analogy of the two forms of toxic paralysis suggests another problem, which still awaits solution, namely, is the integrity of the spinal cord and of the peripheral nerves ever simultaneously disturbed, or does a peripheric lesion tend to produce a central one, and *vice versa*. This would be a legitimate inference, although there is again no post-mortem evidence extant to confirm this hypothesis. There are those who believe that the nerve lesion may spread to the cord, and produce a typical myelitis. Among these are Leyden and Strümpel. There are others, as Pitres and Vaillard,[1] who conclude that the neural lesion plays no part whatever in the production of the clinical picture, but that the specific symptoms depend upon structural changes in the cord and posterior nerve-roots.

There are thus a number of interesting questions connected with the study of toxic paralyses, about which our literature is very elementary and our knowledge only conjectural. In this connection the following quotation from Seguin [2] is very pertinent: "The physician, who, meeting with a case of arsenical paralysis, would seek for information on the subject . . . would be grievously disappointed. Such writers as Grasset, Ross, Wilks, Bauduy, Hamilton, and Hammond, do not mention the affection at all, while Rosenthal devotes only a short paragraph to arsenical nervous symptoms." In view of this sentiment, I think no apology is necessary for the publication of my case.

Miss H——, aged eighteen, Hungarian by birth, states that, one night, in a fit of despondency, she swallowed a large quantity of Paris green with suicidal intent and then retired. Thereupon she began to vomit profusely and thus rid herself of much of the poison a physician being now summoned prescribed antidotes and emollient drinks. She was soon seized with agonizing pains in the region of her stomach, and these rapidly radiated over the entire abdomen. On the next morning she had a slight chill, followed by a sense of heat and accompanied with considerable prostration. The violent vomiting now ceased, but the burning pains within the abdomen became aggravated to such a degree that it was necessary to keep

[1] Journal of Nervous and Mental Diseases, October, 1882.
[2] Philadelphia Medical Times, 1881, p. 385.
[3] Journal of Nervous and Mental Diseases, January, 1883.

[1] Archives de Neurologie, 1883 and 1886, Revue de Médecine, 1886, p. 574.
[2] Journal of Nervous and Mental Diseases, October, 1882.

her moderately under the influence of narcotics. In this condition she remained for about ten days, when she became aware that her vision was growing indistinct and her hearing defective; the white of the eyes was not reddened but the lids were somewhat swollen; at about this time also an eruption of "red pimples" made its appearance over the forehead, around the lips, and also in the right intercostal region. Within a few days these latter symptoms disappeared, leaving her with her normal vision and hearing. Her recovery from the immediate effects of the poison was now assured, but for a long time a considerable degree of gastro-intestinal irritability persisted. At about this time, some twelve days after taking the poison, she complained of pains of a darting character in her legs, feet, forearms, and hands. These pains were intermittent, coming and going at short intervals, and so intensified at night that her sleep was much disturbed; they began simultaneously in all the extremities. Accompanying these were feelings of numbness, coldness, and formication, the last especially marked in the fingers and toes. At this time also her hands and feet were constantly bathed in cold perspiration and began to swell. Whether these symptoms were preceded by, or attended with, fever cannot be determined. She became very sensitive to pain, the slightest pressure caused her to cry aloud, even the pressure of the bedding caused her uneasiness. The severity of these sensory disturbances gradually abating, she concluded on the third week after swallowing the arsenic to get out of bed; she was assisted on her feet, only to learn that she was unable to support herself, and that motion in her hands was seriously impaired. At this stage of her illness she first came under my observation.

Status Præsens.—Her previous history is unimportant, while there are no antecedents in her family history to which we could attribute her present affliction.

General Inspection.—Patient is confined to bed and looks anæmic. She has the characteristic wrist-drop and foot-drop. Atrophy of the muscles of the radial, posterior brachial, anterior tibio-fibular, and peroneal regions is marked, the interossei of the feet and hands are somewhat atrophied, so that in the latter the thenar and hypothenar eminences are rendered very prominent. No other muscles of the body appear to be involved. There are slight tremors of the calf muscles, while there are fibrillary twitchings of individual parts of several of the atrophied muscles, notably the palmar interossei; in other muscles twitchings may be elicited on tapping them gently with the fingers. There is nothing in the gross appearances of the sensory organs to indicate past or present disease.

Reflexes.—On testing the reflexes it was learned that the superficial, *e.g.*, plantar and abdominal, responded sluggishly, and the deep, *e.g.*, patella-tendon and the ankle-clonus, were absent; the organic reflexes, *e.g.*, bladder, rectum, and pupillary, gave no evidences of disturbance.

Sensory Disturbances.—Patient still complains of burning pains shooting along the extremities below the elbows and knees. The tingling sensations in the hands and feet are a source of great annoyance, and these, in connection with the pains, rob her of her sleep. The disturbances of sensibility are of the nature of a cutaneous hyperæsthesia rather than of an anæsthesia. Tenderness along the course of the affected muscles is easily elicited, it renders the examination painful and interferes much with the treatment by electricity. Firm pressure on the muscles at the points of exit of nerves is particularly painful. There is a slight patch of anæsthesia to be detected on the dorsum of the feet, extending upward as far as the ankles, and on pricking the integument over the posterior aspects of the hands with a pin, delayed transmission of painful sensations is also to be detected.

Motor Disturbances.—The motions of flexion and extension at the elbows and knees are not impaired, but below these there is such a general loss of strength and power that the several groups of muscles have eventually lost their normal equilibrium. Patient can raise her hands to a very limited degree, showing that the paralysis is not complete; her feet have fallen forward from their own weight. Being asked to raise the latter, she makes an unsuccessful attempt, nevertheless it can be noticed that she is slowly regaining this lost power. Voluntary extension of the toes and phalanges is very imperfect.

There are no Tendon Contractures.—On applying the electrodes of a faradic battery over the motor points on the extensor aspect of the forearm and the outer aspect of the leg—the sides presumed to be involved—electric contractility of the muscles supplied by the musculospiral and anterior tibial nerves is observed to be abolished; these nerves and their branches respond, however, to a galvanic current of average strength.

Her pulse, respiration, and temperature are normal, and examination of the urine is negative. Appetite fairly good, bowels constipated. The bladder and rectum were never affected. She remained under my observation for about two weeks. During this interval treatment consisted in daily applications of a galvanic current, systematic massage, the extremities were enveloped in cotton, and she was put upon fairly large doses of iodide of potash and strychnine, the former to free the system of the poison, the latter as a nervine. The patient was then transferred to the Mount Sinai Hospital, into the service of Dr. E. G. Janeway, who confirmed the diagnosis. Here she remained some six weeks, when she was discharged, cured. She then presented herself at my office, when I found that she could again use her hands and feet for all purposes, but she states that she feels very weak on her feet, and that the integument is constantly cold. At the hospital the R. D. was tested and found, the examination of the eyes gave negative results.

This clinical picture, taken as a whole, undoubtedly indicates that we were dealing with a nerve lesion in contradistinction to a spinal one, and further, that the nerves involved were not affected throughout their entire lengths but only in their distal extremities; it appears also that the sensory as well as the motor fibres were involved. The fact that the skin and tendon reflexes were practically abolished and the prominence of the trophic symptoms seemed to speak for an interruption in the communication of individual nerve fibres from their centres of nutrition or "trophic centres;" conversely, the fact that the organic reflexes were undisturbed while rectal and bladder symptoms were conspicuously absent seemed to disprove the idea of a myelitis.

This and parallel cases make it almost safe to conclude that toxic agencies, such as arsenic, lead, mercury, carbonic-oxide gas, tobacco, alcohol and the poisons of the infectious diseases, when they exert their toxicity on the nervous system, exhibit a selective action on the peripheral nerves. Thus the lead paralyses, the functional amblyopia of tobacco, alcohol, and medicinal agents, and certain species of ocular paralyses and neuritis can probably be attributed to peripheral lesions.

270 East Seventh Street.

St. John's Guild.—The trips of the floating hospital of this association will commence early in July, and the sea-side hospital will be opened at the same time. Last summer 30,057 sick children and mothers were taken on the floating hospital, the cost being but twenty-one and one-fourth cents per person. There were 1,573 who received hospital care and treatment at the sea-side hospital at New Dorp, S. I.

St. Mary's Hospital, in East St. Louis, was dedicated on June 1st, by Bishop Janssen. Although this town is a large railroad centre it has never had a hospital, and the injured or sick railroad employees had to be taken to St. Louis, or to the County Hospital at Belleville, fourteen miles away.

Clinical Department.

FIBRO-MYOMA OF UTERUS—SLOUGHING—RECOVERY.

By WILLIAM S. CHEESMAN, M.D.,

AUBURN, N. Y.

Mrs. S——, forty-nine years of age, and mother of three grown children, had suffered from a uterine fibroid for five years, to my knowledge. This had been first discovered by a physician some two years previously, or seven years ago. This tumor filled the abdomen to a finger's breadth above the umbilicus and caused much cystic irritation, pain on walking, and menorrhagia. The patient was considerably depleted by monthly losses, but being of an energetic spirit refused to lie up for treatment, and finally passed out of my hands.

On June 23, 1889, in the absence of the physician who had been attending her, I was called to see her again. She had flowed excessively for nine days, and was blanched and delirious, but without fever. The bleeding had ceased spontaneously. Restorative treatment was pushed, but the anæmia delirium continued for some five weeks, of which period she now retains no recollection whatever. Digital examinations made from time to time with the greatest gentleness, on account of sensitiveness of the uterus, revealed no change in the tumor, which bulged upward as high and large as ever. Fortunately there was no return of hemorrhage, and the patient's strength slowly returned till she was able to sit up. On August 14, 1889, in accordance with her earnest desire, she was taken to Lake Ontario for change of air. She was moved in a bed, and stood the short journey well. During an absence of nearly two months she menstruated once, but the flow was not excessive.

On her return (October 2, 1889) she was admitted to the Auburn City Hospital, improved in strength, but bedridden. Before her trip she had seemed too weak to warrant local treatment, or even thorough examination. But I was now able to investigate more carefully. The uterus was still very sensitive, and there was considerable leucorrhœa. A probe entered the uterine cavity to a depth of nearly five and a half inches, being deflected to the patient's left. The tumor seemed to occupy the fundus and right-hand wall. No pedunculation could be demonstrated; nevertheless, I determined to be certain on this point, and arranged to dilate the cervix under ether, explore the cavity, and remove the growth, if this were possible. At this juncture, however, the patient was seized with hemorrhage—the first since June. This was controlled by the vaginal tamponade, but not before enough blood had been lost distinctly to lessen her strength.

After this last bleeding the temperature began to rise, and the vaginal discharge, which had never been more than a free leucorrhœa, became abundant and decidedly offensive. The patient was about this time transferred to her own home. Here the gravity of her condition steadily increased, her fever reaching 103° or 104° F., afternoons, and the discharge, in spite of antiseptic douches, becoming more abundant and malodorous. I now felt sure that, in consequence of the patient's lowered vitality, the tumor had perished, and was slowly sloughing. In the hope of assisting in its extrusion I administered fld. extr. ergot tentatively, in half-drachm doses, every two hours. The uterus reacted promptly and with such vigor that morphia had to be used to allay the colic; but with the unexpected result that the discharge ceased, and the patient had a chill followed by a rise to 105° F. The next day a mass about as large as a Seckel pear was expelled. Notwithstanding this latter encouraging result, it was some days before I dared repeat the ergot; and when I did, the same colic, stoppage of discharge, chill, and high temperature ensued, but without any subsequent extrusion of slough to compensate for the disturbance. Evidently the uterine wall, under the influence of the ergot, shut down upon the growth so tightly that discharges were retained, a septic chill, etc., ensuing. I therefore ordered ergot in three doses, of from ten to fifteen drops, two hours apart. This worked well. Ensuing pain was not severe, discharge, though lessened, did not cease, and no chill resulted. From day to day this treatment was followed, fragments and shreds appearing in the fetid pus which poured from the uterus.

All this time I was uncertain whether the growth were pedunculated, or encapsulated, or partly both. The phenomena following full doses of ergot seemed to argue that the mass must still, in whole or part, be within the uterine substance. Nevertheless, it seemed clearly proper to dilate the cervix, explore, and, if possible, remove the necrosing tumor. Accordingly, on November 25, 1889, ether was administered, and with the assistance of Drs. Parker and Jenkins, I dilated the cervical canal with Barnes's and other rubber dilators, until two fingers could readily enter the body of the uterus. The situation of affairs was then immediately made plain. The cavity of the uterus was enlarged, and not perceptibly encroached on by the tumor. While the body of the womb was pressed downward by one hand on the abdomen, the finger carried to the fundus detected an opening in the roof of the chamber, circular in outline, about as large as a fifty-cent piece, and which felt extremely like the dilating os of a parturient womb. Within this circular rim, between the body of the tumor and the uterine wall, the finger-tip swept around, unobstructed separation between the uterus and tumor having occurred to this extent. But beyond this the finger could not penetrate. No signs of further separation, or even demarcation, between the growth and the womb could be made out. The free surface of the growth was rough and uneven.

The question now was whether to proceed with the dilatation, and attempt to enucleate this necrosing, but still firmly attached, mass. My reading had not given me a very pleasant impression of the results of such attempts, even when made by the most skilled operators. My patient was in a very precarious condition, weak from previous bleedings, and further exhausted by septic absorption and fever. It did not seem to me, nor to my colleagues, that she could bear an operation which must be prolonged, and which probably would be bloody. If any hazardous attempt were to be made, supra vaginal hysterectomy appeared preferable to a slow intra-uterine enucleation. Furthermore, as the tumor was sloughing, and there was free egress for sloughs, it seemed likely that nature herself might be able to deal with the case. Accordingly, after curetting away all loose fragments, and washing out the cavity with a bichloride solution, I stopped the ether.

Recovery from this exploration was uneventful, except for a sharp chill, to which no special significance seemed to attach. The dilatation secured freer drainage, and the daily extrusion of small particles under use of ergot went on. Nevertheless the situation grew graver. In spite of alimentation, tonics, and stimulants, vaginal and intra-uterine antiseptic douches, and of attempts to control temperatures by antifebrin, the patient perceptibly lost ground. I several times planned to etherize and dilate again, in hope of finding the mass softened and easy of removal, but fearing the consequences of even slight shock to a much-weakened patient, refrained. Altogether I felt myself in that unpleasant predicament picturesquely located by seafaring men, "between the devil and the deep sea."

One day late in December (the 27th), however, there was passed into the vagina a large, ragged, and intensely fetid slough, which I removed. About two days later a similar fragment came away. After the passage of this latter the temperature rapidly subsided, reaching 98⅘° F. in a couple of days, and never rose again. The discharge gradually lessened, and its odor disappeared. With the cessation of sepsis the patient began to improve, and in about a month was able to sit up, and even walk a little.

An examination made late in January, 1890, showed

the uterus natural in size, light, movable, free from tenderness, and without trace of the tumor which had formerly filled the lower abdomen. The patient is now able to attend to her usual duties, and the constitutional traces of her long illness have almost disappeared.

Here, then, apparently, we have the record of a surgical triumph on the part of nature, and a further illustration of the point recently emphasized in these columns, that assistants to this antiquated, but not always bungling operator, do well occasionally to hold their hands.

ALCOHOLIC DELIRIUM IN PNEUMONIA.

By GEORGE T. WELCH, M.D.,

PASSAIC, N. J.

Juergensen has argued that the high temperature in pneumonia is answerable for the active delirium which is sometimes found in that disease. I have observed in my own experience that, in some cases where the temperature has not risen above 103° F., if the patient has been a victim of alcoholism, destructive nervous symptoms have been evoked, which have not abated even when, under the influence of antipyretics, the bodily heat has fallen $3\frac{5}{10}°$. This author states, however, that "the frequency with which one meets this form of cerebral symptoms will depend upon the extent of dram-drinking in the neighborhood." He found it common in Kiel, and not at all in Tübingen, while in Sweden nearly seven per cent. of all cases of pneumonia suffer from it. Grisolle regarded alcoholism as the most frequent cause of delirium in pneumonia. And Huss, from his observation of the frequency of this nervous disturbance in the pneumonia of drunkards, was led to describe a special form of the disease as *Pneumonia Potatorum*.

It does not at all follow that a man must have been a drunkard, in the common meaning of that term, but even if he has been but a steady moderate drinker it is not improbable that, under the stimulus of fever in pneumonia, at a time when the blood is but imperfectly oxygenated, the nervous system will become maddened and produce paroxysms as wild and intense as those of insanity. Chronic alcoholism has produced already lesions, or, at the least, disturbances of nervous functions, which leave the system ripe for riot. Nor is it a necessary factor that the temperature should be high which flares the torch to awaken this bacchanal. Delirium tremens may stagger forth with ramp and fury, like Cassio in the drinking scene, but the sinister, cool, sneering Iago has laid the train which tosses him into passion. Orgies, hunger, hardships, watching, may be the cause of the outbreak. So, too, in the pneumonia of an alcoholic. I have known a temperature of but little above 100° to produce tremors, hallucinations, and ferocious violence.

Habitual alcohol-drinkers are far more liable to pneumonia than others (Wilson). The vitality is lowered, and the system susceptible to extraneous influences to an immoderate degree. Probably this was at one time better understood than it is at present, for, in spite of prohibition warnings, I think it is indisputable that there is less of drunkenness now than in the past. The three-bottle men are under the table, not to arise again, and some of the younger men in the profession may not have seen a case of delirium tremens at all. Certainly it was not an uncommon affection even as late as twenty years ago. In the first year of my practice I saw two cases—this was in 1869, but for several years I had not seen a case, until this winter, when I have met with two more.

But I have from time to time seen here and there a case of alcoholic delirium in pneumonia which would have puzzled me had I not known how to associate the tremor and the bizarre imaginings of the patient with the true cause.

In a recent case a stout young workman, a moderate drinker, whom I had known in health for his jaunty demeanor, on the third day of an attack of pneumonia of the lower lobe of the right lung, after remaining awake for thirty hours, began to exhibit the most curious interest in all that was said or done at his bedside. He would raise his head from the pillow, and follow with piercing eyes each motion of his attendants, and start with an intense look at the rustling of the bedclothes, or slight creaking of his mattress as he moved himself wearily in bed. On the succeeding day I found him in his night-clothes parading the dining-room, a fixed sardonic smile glazing his features and a glare of madness in his eyes. His wife and an attendant were hanging at his arms, vainly persuading him to return to his bed, while with suppressed passion he strode unmindful. Sternly demanding that he should go to his room, I prevailed over his humor, and taking his temperature in the axilla, I found it had fallen from 103° to 101° F., and exploration of the chest revealed the fact that the pneumonia had abated considerably since the night before. A slight tremor was apparent, and the patient insisted that his food had been drugged, and stoutly asserted that he would take no more medicines; but this he would do when I presented them, while he would spurn them violently from the hands of others. He got out of bed suddenly and began to fumble on the floor, muttering that some of his tools had been knocked down in the shavings and would be lost. When I saw him in the afternoon he was dressed, lying prone on the bed, at full length, slippers and smoking cap on, and a lighted pipe between his teeth, puffing vigorously. He hailed me hilariously, and wanted to know when we were going to take his measure. His eyes were glittering, and his demeanor was reckless. He gulped down his anodynes and mixtures with a mad haste, starting involuntarily now and then. He felt no pain, but struck his chest a remorseless blow to confirm his words. He lost all decency, expectorating on his bed, and vilifying his attendants. A few hours later, on my return, I found his bedroom stripped of all furniture but his bed. He had developed a destructive tendency, and with difficulty had been restrained from demolishing pictures, chairs, and household goods. His strength was prodigious, and like the Homeric simile of the wild boar making his savage, sturdy passage through the brambles with half the hunters' pack hanging at his sides, our iconoclast made his way from room to room with half a dozen of his neighbors barring and opposing him in vain.

I had been giving him small doses of chloral and the tincture of digitalis without avail, but I now changed my tactics, and from thenceforward, for twelve hours, gave him hourly fifteen grains of chloral and half an ounce of the infusion of digitalis, until his obstinate vigilance was broken and he fell asleep. Afterward the delirium was less manifested, and finally it departed, the patient making a good recovery.

In a case under my care at Keyport, where I formerly practised, the delirium took on a grotesque form, the patient chattering and laughing, a procession of ludicrous figures, the eccentric of the town, aptly hit off by a descriptive phrase, came trooping in at a second-story window and passed over the bed and through the wall. The magician lay convulsed, coughing, colliquative, laughing, shouting, and wildly furious by turns. He heard voices, was fearful of being poisoned, and was mirthful and wretched, all in the chimes of a quarter of an hour. But the humorous element predominated. As in the other case, the symptoms yielded to chloral and the infusion of digitalis, as did another case where the symptoms took on the convulsive form, the patient roaring in his contortions, while he fought like a demon.

And here I shall take occasion to insist upon the free use of these two remedies, boldly and confidently administered. Opium and its derivatives, and a long list of narcotics and anodynes are useless, they are ineffectual darts thrown upon the panoply of the dragon; but chloral and digitalis—either good, but combined irresistible—will certainly triumph if used heroically. A series of cases of

delirium tremens was reported by me in 1875, and published in the "Transactions of the New Jersey Medical Society," in which, after losing time with other measures, I gave tincture of digitalis, in half-ounce doses, until the symptoms abated, and sleep supervened after from one and one-half to three ounces had been given. No ill effect followed, and the same disease occurring in one of the patients a few months afterward, I began the tincture of digitalis in teaspoonful doses at once, and conquered the delirium in a few hours. These cases remained under my notice for some time afterward, and I made frequent examinations of the heart to detect any accumulative action of the drug, but did not discover any.

Although digitalis is among the most powerful of cardiac poisons, it rarely proves fatal (Von Boeck), and, as Stillé observes, there would appear to be something in delirium tremens which insures a singular toleration of this medicine. Digitalis, in small doses, is a spur to a feeble heart, driving it down to the death, if long continued, and it is not until comparatively large doses are given that we get the cardiac tonic properties promised by therapeutists. In the use of a remedy capable of great results we must be both bold and wary. To be only the latter, is to become subject to the echoes of disaster which every physician has heard and few have witnessed.

Chloral alone has answered the indications in alcoholic delirium, but in small doses it seems to have little effect unless very frequently repeated, and in large doses there is danger of heart-paralysis, but combined with digitalis each may be given in moderate doses, and yet a speedy effect be evinced.

A case of pure delirium tremens might yield in time to other and simpler measures, the probabilities are that it would; but associated with pneumonia the condition is hourly increasing in gravity, and only a short time is offered in which to do our utmost to rescue the patient from impending death. Brought face to face with this situation I have thrown aside all other means, and have scored success with the combination I so confidently recommend.

THE PREVENTION OF THE TOXIC EFFECT OF COCAINE.

By ISIDOR GLUCK, M.D.,

OCULIST AND AURIST TO THE ACADEMY OF THE SACRED HEART AND BROWNELL HALL, OMAHA, NEB.

Cocaine, our most useful local anæsthetic, has one great disadvantage which anyone who has much employed the drug must have experienced, viz., its toxic effect. Sooner or later, in the experience of everyone, this is manifested, and generally when least expected. In my own practice, using the drug frequently in diseases of the eye, ear, nose, and throat, and seeing at times most alarming effects, I came to have a certain dread of it. Though cases are reported I have never seen it produce the toxic effect as a result of its use upon the eye. Its failure to do so is probably because absorption through the cornea is much slower than elsewhere, and I have always made it a rule to guard the tear-ducts—the channels leading to the nose and throat. In operations on the cornea I have always made it a rule to use the drug in the powdered form, the moisture of the eye is thus absorbed, and as the process of solution is slow, the anæsthesia is correspondingly prolonged. It is in the treatment of the nose and throat, and when used hypodermically, that cocaine produces most alarming symptoms. Though used in strengths varying from four per cent. to twenty per cent., sometimes the weakest solutions will produce the toxic effect in one susceptible. There is a great difference in individuals in this respect, some being very susceptible, others scarcely so at all. Patients with neurotic tendencies are generally more susceptible than others.

The first symptoms marking the toxic effect of cocaine are restlessness and pallor of the face. In some cases perspiration appears about the mouth and on the forehead, and patients invariably express themselves as feeling "very peculiarly." In such cases, treated daily, there is restlessness at night.

Miss H. M——, blonde, aged twenty-four, suffering from hay fever. Applied a four per cent. solution of cocaine to left nostril, had hardly removed the cotton-carrier when she sprang from the chair exclaiming, "Doctor I cannot breathe; I am choking." In a few minutes all effects had disappeared. Next day I applied a one per cent. solution of sulphate of atropia; in a few minutes patient complained of a feeling of lassitude, pupils normal, no flushing of the face or dryness of the throat. The same patient, fifteen minutes after a dose of fifteen grains antipyrine, manifested the following symptoms: Face puffed, pupils dilated, eyelids swollen, conjunctiva injected, rash all over the body, pulse scarcely perceptible at the wrist, breathing hard and rapid. I have had other cases susceptible to cocaine and atropine, and others, like the one just mentioned, susceptible to the influences of cocaine, atropia, and antipyrine. All have been blondes with neurotic tendencies, and generally adults of middle life. Children seem to bear cocaine well, as they do atropine. Aside from the alarm and inconvenience of the toxic effect of cocaine, the drug has another peculiarity in solution. It does not remain stable. After twenty-four hours it loses its anæsthetic properties to a greater or less degree, and in a few days becomes useless. The strength of the solution varying thus it has to be freshly made every day.

For the reasons above mentioned I was led into a series of experiments with a view to rid cocaine of these defects, the result being the discovery that cocaine in combination with phenol not only removes the objectionable features, but increases its usefulness. The formula which I have adopted is the following:

℞. Phenol	gtt. ij.
Aqua destillata	ʒ j.

Shake until solution is perfect, then add cocaine hydrochlorate, gr. x.

I have been using the above formula for over a year, and since using it have never had to deal with the toxic effect of the drug. In fact I have been able to use it in any quantity, and in any part of the nose or throat, without the least fear of harmful consequences. Phenol, in the same manner as cocaine, by suspending the functions of the sensory nerves, is itself a local anæsthetic of no mean power. The combined action intensifies the anæsthetic. Phenol also coagulates albumin and combines with fats, forming a very superficial eschar which prevents the absorption of cocaine, and hence its toxic effect. Phenol is also destructive of bacteria, fungi, etc., and prevents decomposition in the solution. Its effect is also to ward off the congestive and other reactive effects experienced after the use of cocaine, which, next to chloroform and opium, is nature's greatest boon to mankind.

Résumé: The Advantages of Phenol and Cocaine.—1, Prevents toxic effects; 2, increases the anæsthetic effect; 3, prevents congestive reaction; 4, prevents decomposition of the solution; 5, renders solution aseptic.

Regulation of Medical Practice in Illinois.—The report of the State Board of Health of Illinois for 1889 illustrates the efficacy of its laws for the regulation of medical practice. When the law went into effect there were in the State engaged in practice 7,400 persons. Of these 3,600 were graduates from some medical college, while 3,800 were non-graduates. In other words, the graduates constituted only forty-eight per cent. of all engaged in practice. On January 1, 1890, the percentage of non-graduates to the whole number was only nine. From 3,800 the number has been reduced to 575. The total number of physicians in the State is less now than it was twelve years ago.

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A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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PUBLIC REGULATION OF THE MILK-SUPPLY OF CITIES.

AN idea was advanced at one of the Section meetings at the Nashville Convention that deserves careful consideration. It was to the effect that municipalities should have control of the production of the milk-supply as well as of its sale. At present the only supervision is that exercised by the Board of Health to prevent adulteration of milk. The tests required thus far have been reduced to scientific accuracy, and so far as we can judge the inspectors perform their work honestly. The results are as good as can be obtained under present circumstances. But we can exercise practically no supervision over the care of the dairies from which the milk comes. It is here that the mischief often arises. The milk, such as it is, reaches the city in as good condition as it was when it left the dairy. This is, however, to be modified somewhat when we consider how much the milk is swashed around in transit. But the trouble lies farther back. The average farmer does not exercise any great care in either feeding, stalling, or milking his cattle. As milk comes from the udder of the healthy cow it is pure, and free from germs. If it is carefully kept free from dirt, immediately bottled, or placed in small air-tight receptacles, it can be delivered to the consumer in this same state; but, as a matter of fact, no such care is taken to make the milking process a cleanly one. The milk from different animals is dumped into one large can, which is opened and reopened in the final distributing process, until the wonder is that more milk is not really spoiled than is actually the case.

Now, the new idea is to give a Board of Health authority over the source of supply. We are met at once with the objection that the city has no right to interfere with a man's private business. It has none, if the man's business does not directly concern the life and health of his fellow-citizens; but in this case it does, and concerns the most helpless class in the community—namely, infants and children, who are so largely, and at times entirely, dependent on milk for their sustenance. We do not mean that the city should go into the milk business, but we do believe that the inspector's power should go farther back than the milk-can. It should go to the dairies themselves. Milk producers should be compelled to seal their milk in small receptacles as soon as it is passed, and so deliver it to customers. Much of the bottled milk delivered now is bottled in our avenues and side streets in the early morning hours.

Our inspectors have already the power to examine the animals in a dairy if tubercular disease is supposed to exist, and they have power to order the killing of suspected animals. Let the further authority be placed in their hands. Rules should be established concerning the immediate bottling of milk, and be rigidly enforced. Failure to observe them should be visited with severe penalties.

We take great pains with our water-supply, as well to quality as to quantity. Why should we not exercise the same care with our milk? A few reputable dairies have already established the new system; but, of course, it at present leads to an increase in price, and is available only for the well-to-do classes. But it is the poor who need the most relief. At present the city handlers of milk reap all the profit. The farmers are very poorly paid and make scarcely any money at all, and it is these middlemen who should bear the expense.

The value of milk as an article of diet, for well persons as well as for the sick, is coming to be more and more recognized. Adults as well as children can be kept on it, and it could replace with advantage much of our meat and heavier food, particularly in the warm weather. Therefore any measure which leads to purification of the supply in our cities deserves careful consideration. Sterilization removes many of the dangers, but it can never improve milk. It only renders it less harmful.

THE TREATMENT OF GONORRHŒA.

THE treatment of gonorrhœa, like the treatment of syphilis, is a subject which has received an enormous amount of attention and of scientific and literary labor. Despite all this, the practical management of gonorrhœa is exactly what it was ten or twenty years ago. It is true that a few assert great results for frequent and copious irrigations with water or disinfectants, but this plan has not achieved any wide recognition or endorsement.

A long communication from Dr. Friedheim, in the *Archiv fur Dermatologie und Syphilis*, upon the subject of the treatment of gonorrhœa, has recently appeared. It will excite some interest because his work has been done in Professor Neisser's clinic, and represents the results of a study of one thousand two hundred cases. Dr. Friedheim states that he sought to find that local application which would most completely kill gonococci, lessen inflammation, and promote epithelial desquamation and elimination of the microbes.

The best results, according to an analysis given of them in the *British Medical Journal*, were obtained from a solution of nitrate of silver, of a strength varying from 1 to 4,000 to 1 to 2,000. The treatment is begun by the injection of this solution in the ordinary way, from four to six times a day, the result being that at first the discharge becomes more abundant, thicker, and more purulent; but in about four days the secretion diminishes, becomes thin, and contains a quantity of epithelium. The gonococci also diminish in a remarkable manner, and after a few days disappear altogether. When this has taken place, the number of injections of nitrate of silver is reduced to two, and afterward to one, daily; and other injections, such as boric acid or some preparation of zinc,

are used as well. But, in spite of the almost total disappearance of the discharge, the one daily injection of the nitrate of silver is to be kept up for many weeks. In cases where the nitrate of silver could not be borne even in weaker solutions than those above mentioned, salicylate of mercury, or thallin, or the chloroborate of sodium was substituted with a certain amount of success; and in the very rare cases in which no antibacterial injection could be tolerated, internal remedies were resorted to. Of these, cubebs, turpentine, oil of gaultheria, oil of sandalwood, kava-kava, ichthyol, creolin, and copaiba were tried; but among these copaiba alone, and that only in some cases, was found to have any decided effect on the gonococci. As regards the danger of complications from the use of the nitrate of silver injections, it was found that this mode of treatment was really the best preventive.

CATS, COWS, AND DIPHTHERIA.

Evidence obtained over ten years ago by Mr. W. H. Powers, and recently by Dr. E. Klein, goes to show that diphtheria in man may come directly from a disease of the cow and of the cat. Dr. Klein's investigations, in particular, indicate (*The Lancet*) that there is a natural malady occurring among cats which is associated with diphtheria in the human subject. The cats suffer from broncho-pneumonia, later their kidneys are found to be large and white, with the cortex in a state of fatty degeneration. Dr. Klein finds a bacillus in diphtheritic membrane, which, when inoculated into guinea-pigs, cats, and bovine animals, produces a local tumor in which the bacillus is found to have multiplied, followed by congestion of the internal organs, broncho-pneumonia, and, at a later stage, if the animal live, fatty degeneration of kidney. When inoculated into the cow, the tumor is found to be followed in a day or two by a papular eruption on the udder. This eruption passes rapidly through the stages of vesiculation and pustulation, the pustules changing into a crust with sores beneath. But there is a difference between the guinea-pig and cat on the one hand, and the cow on the other, in the circumstance that the bacillus in the former animals is limited to the region of inoculation, but in the cow is found in the eruption on the udder and in the milk.

There seems to be quite strong evidence that there is a natural malady in cats which, when conveyed to man, is diphtheria; also, that there is a disease occurring in cows which gives rise to this peculiar cat-diphtheria when the milk of the infected cow is drank by cats.

The Cholera in Spain.—An outbreak of Asiatic cholera is reported from Puebla de Rugat, in Spain. The disease has existed there for some time, but its true nature has been recognized, or at least acknowledged, only within a few days past. Even yet the government at Madrid refuses to admit that the disease is true Asiatic cholera. Rugat is a small town in the eastern part of Spain, near Valencia, and physicians and medicines have been sent from the latter place to relieve the sufferers in Rugat. About one hundred cases of cholera have thus far been reported, and new ones are reported daily, despite the efforts of the local authorities to stamp out the disease.

News of the Week.

Berlin Congress.—An orthopædic section has been established for the International Congress.

Roosevelt Hospital Operating Theatre.—The legal difficulty concerning the will of Mr. Syms, providing for the erection of an operating theatre upon the grounds of the Roosevelt Hospital, has been compromised so that the work upon said building will soon be resumed. A gynecological operating pavilion is also in process of erection. The money therefor has been subscribed by a friend of Roosevelt Hospital.

The Ohio State Medical Society held its annual meeting in Columbus on June 4th, 5th, and 6th. The following officers were elected: *President*, Dr. W. J. Conklin, of Dayton; *First Vice-President*, Dr. D. N. Kinsman, of Columbus; *Second Vice-President*, Dr. B. L. Milliken, of Cleveland; *Third Vice-President*, Dr. D. J. Snyder, of Scio; *Fourth Vice-President*, Dr. Orpheus Everts, of College Hill; *Secretary*, Dr. G. A. Collamore, of Toledo; *Assistant Secretary*, Dr. J. A. Spence, of New Philadelphia.

The Wisconsin State Medical Association closed its annual meeting in Milwaukee on June 6th. The election of officers resulted in the choice of the following: *President*, Dr. Ladd, of Milwaukee; *First Vice-President*, Dr. F. E. Wallbridge, of Milwaukee; *Second Vice-President*, Dr. B. F. Phillips, Menomonee, Mich.; *Secretary*, Dr. J. R. McDill, of Milwaukee; *Assistant Secretary*, Dr. H. B. Ogden, of Milwaukee; *Treasurer*, Dr. Sydney S. Hall, of Ripon. The next annual meeting will be held in Madison during the first week in May, 1891.

The Montana Medical Association.—At the annual meeting of this society, held in Helena on June 5th, the following officers were elected: *President*, Dr. J. S. Hammond, of Butte; *First Vice-President*, Dr. J. H. Owings, of Deer Lodge; *Second Vice-President*, Dr. George L. Treacy, of Helena; *Corresponding Secretary*, Dr. George H. Barbour, of Helena; *Recording Secretary*, Dr. Wm. Gunn, of Butte (re-elected); *Treasurer*, Dr. W. L. Steele, of Helena (re-elected). It was voted to hold the next annual meeting in Helena, the third Wednesday in April, 1891.

International Medical Congress.—In connection with the exhibition during the Congress at Berlin the German Imperial Board of Health is engaged in forming a special department for the illustration of medical and sanitary appliances. It is hoped that the various hygienic institutes and laboratories, as well as instrument-makers and others, will largely contribute to the exhibits. The larger German towns will also probably show plans of the sanitation works carried out within them.

An Ambulance System in Louisville.—An effort is being made by the Commissioners of Public Charities in Louisville, Ky., to establish an ambulance service in that city in connection with the municipal hospital. It is rather strange that a city of such a size should have no provision for caring for cases of emergency.

Cardinal Lavigerie is having negroes trained as medical practitioners at Malta, and several have already completed their education and proceeded to Central Africa.

The Mississippi Valley Medical Association will hold its seventeenth regular annual meeting at Louisville, October 8, 1890. The profession of the Valley is invited to attend and to bring their wives and daughters. Kentucky promises to outdo herself in hospitality on that occasion, and the ladies will be given especial attention. Titles of papers should be sent to the Secretary, Dr. E. S. McKee, 57 W. 7th Street, Cincinnati, as early as possible. Gentlemen who read papers at the last meeting will confer a favor if they will send copies or reprints of the same to the Secretary, to complete a collection of the transactions.

The Death of Dr. Francis Siredy, of Paris, is announced. Dr. Siredy was born in 1831. He was at the time of his death a member of the Académie de Médecine.

Death of Dr. John A. Bosch.—John A. Bosch, M.D., died June 6th, at twelve o'clock noon, at St. Luke's Hospital, of phthisis pulmonalis et laryngis. Dr. Bosch was a graduate of the College of Physicians and Surgeons in the city of New York, class of 1885, and an ex house surgeon of Charity Hospital, on Blackwell's Island, staff of 1886 and 1887. He went abroad soon after leaving the hospital, returning to New York late in the fall of 1887. He practised a while in this city, until compelled by ill health to leave, when he moved to Poultney, Vt. The climate there proving too severe, he, with his wife, repaired to Guayama, Porto Rico, where, instead of improving, he grew worse, and finally returned to New York for treatment. He entered St. Luke's Hospital June 3d. The doctor's death will be lamented by a host of his friends and professional associates, and his wife and other members of his family will be the recipients of condolences from all who knew him.

Tompkins County (N. Y.) Medical Society.—At the annual meeting of the Tompkins County Medical Society, held at Ithaca, N. Y., on the 29th ult., Dr. Winslow was re-elected President, which office, however, he declined. Dr. Eugene Baker was therefore elected President, Dr. J. A. Lewis, Vice-President; Dr. John L. Babcock, Secretary; and Dr. Edward Meany, Treasurer and Librarian. This society meets once a month, and with the assistance of those of its members who are members of the faculty of Cornell University, these meetings are made very interesting and valuable.

The Meharry Medical College (colored), Nashville, Tenn., has recently added a new building, with a large, well-lighted, well-ventilated lecture-room, situated across the street from the older one, and for use by both the medical and the dental departments. Professor George W. Hubbard, who has been so active in building up this college, says he wants graduates to know practically more about drugs than he was taught at his alma mater, and therefore requires them to spend some time in the pharmaceutical department connected with the same institution. This is an example which might with advantage be followed by other colleges.

The North Dakota Medical Association has been organized, and held its annual meeting in Jamestown, N. D. The election of officers resulted in the choice of the following: *President*, Dr. Coe, of Mandan; *First Vice-President*, Dr. Shurlock, of Fargo; *Second Vice-President*, Dr. Merchant, of Ellendale; *Secretary*, Dr. McIntyre, of Hillsboro; *Treasurer*, Dr. Rounsevell, of Larimore; *Censors*, Drs. Rankin, of Jamestown, and Wellspaugh, of Park River. The next meeting will be held at Fargo on May 26, 1891.

Medical Society of Virginia.—The twenty-first annual session of this society will be held at Rockbridge Alum Springs, Va., September 2, 3, and 4, 1890.

The Southern Dental Association will hold its annual meeting in Atlanta, Ga., on July 15th.

The French Association for the Advancement of Science, which has an important medical section, meets at Limoges, August 7th to 14th.

Dr. Henry T. Child, of Philadelphia, died on June 15th, aged seventy-four.

Dr. Edward Malone, of Brooklyn, died on June 16th, aged fifty-eight.

A Healing Shrine at Alleghany City.—The daily papers state that on June 13th, St. Anthony's Day, at least ten thousand afflicted people from all parts of the country gathered at Father Mollinger's church, in Alleghany City, to be healed and take part in the celebration. It was a curious assemblage of the lame, deaf, and blind, drawn together by the reports of Father Mollinger's miraculous cures. The afflicted began to arrive on the day before, and on the night previous five thousand were camped about the church, sleeping on floors, doorsteps, porches, and the ground. The services began at daybreak and continued all day and until late in the evening. Thousands were unable to gain admission to the church, and all day they stood in the hot sun, awaiting their turns to be cured.

The New Rules of the Commission in Lunacy.—Several changes have been made, in regard to the mode of committing the insane, by the present Commission in Lunacy. One is the medical certificate of lunacy, which goes into effect July 1st. After that date each examiner in lunacy must furnish a statement concerning each patient, giving the name, sex, age, nativity, color, occupation, number of previous attacks, date of the present attack, and other facts designed to give the commission a clear idea of each person so confined in the State asylums. Another rule which is now in force requires that every physician who wishes to become an examiner in lunacy must not only get his certificate as heretofore, but must file a certified copy with the Commission in Lunacy. The Commission has ordered that the officer in charge of each insane asylum be directed not to permit the service of any legal process whatever upon any insane patient, except upon the order of a Judge of a court of record, which shows that the Judge had notice of the fact that the person sought to be served was at the date of the order an inmate of such an institution.

The Pasteur Institute of this City.—A donation sufficient to erect and equip a Pasteur Institute has, it is said, been offered to Dr. Gibier, who is now conducting such an institution on a limited scale.

An Intercolonial Australasian Medical Congress will be held in Sydney, probably in September, or October, 1891. The President-elect is the Hon. Dr. MacLaurin.

A Wink and a Click.—Dr. J. O. Greene reports the case of a woman with more or less hypertrophied process going on in the ear, who by winking could produce a distinct clicking. This was a distinct objective noise, which one could hear by connecting one's ear with hers, and was distinctly produced every time she winked the right eye.

Monuments were Recently Raised in Vienna to Professors John and Theodore Oppolzer, father and son.

"Strychnine Pick-me-ups."—The *British Medical Journal* gives currency to a report that American ladies are in the habit of using strychnine lozenges as a "pick-me-up." They are said to be small doses of putty-colored gray, each containing a thirtieth of a grain of strychnine. American ladies will, no doubt, be interested in learning that they have this addition to their other picturesque habits credited to them by observant foreigners.

Andrology.—There is a gynecology, or science of woman, and now we learn that there is an "andrology"—which means, we presume, the science of man, and more particularly of man's diseases. "Andrology" has no lexicographical existence, or, at least, it is not to be found even in Foster's comprehensive work; but the word has been adopted as a part of the title of the "American Andrological and Syphilographical Association," so that now the profession may expect to have the "andrologist" as well as the gynecologist.

Fœtus in Fœto!—Dr. Kotisko, of Vienna, has presented a preparation taken from an abdominal cystic swelling in an infant five weeks of age! The cyst was a retro-peritoneal one, which contained the skull, buccal cleft, with tongue and underjaw well formed, while the extremities could be distinctly traced. This formation of "fœtus in fœto" was presumed to be the formation of two embryos on the same site, where the one in its development embraced the other, and thus retarding or suspending the growth of the enveloped.—*Medical Press.*

Rib-section Regeneration.—At the Vienna Medical Society, Professor Kundrat has shown the chest of a youth, aged sixteen, who died ultimately of varicose bleeding from the œsophagus, and who had resection of the ribs performed on account of empyema of the pleura. At the Congress this operation was much commented on for the deformity caused after the operation, owing to the bones not being restored. Here was a case with the bony parts quite restored.—*Medical Press.*

The Vienna Ophthalmic Surgeons who have had the wife of the Shah under their care have each received $4,000 for their services.

Dr. Laveran, of the Val-de-Grâce Hospital, in Paris, has received a prize from the French Institute for his researches on the hæmatozoa of malaria.

Pasteur Cranks.—If there is anything certain regarding the various Pasteur institutes for the prevention of rabies, it is that they make a great focus for irrational cranks of various descriptions. A man bitten twenty years ago by a dog "supposed to be rabid," reads of the "Pasteur Institute," gathers up his worldly goods, and comes to New York for inoculation. People who have been scratched by a cat, kicked by a cow, bitten by a horse, or pecked at by an angry hen, are in a state of mind as to whether they should be inoculated or not. Nonsense.

New Hospital in Birmingham, Ala.—The new county hospital in the suburbs of Birmingham is nearing completion. It is a red brick building, 265 × 68 feet, one story high. There are four wards, which will accommodate about one hundred patients. The ground on which the hospital is built was a gift from Dr. J. R. Smith.

Obituary.

JOSEPH W. HOWE, M.D.,

NEW YORK.

A DESPATCH from London announced, on Saturday last, that Dr. Joseph W. Howe, of New York, who was a passenger on the steamship Umbria, had died, June 7th, of a stroke of apoplexy.

Dr. Howe was born in New Brunswick, British America, September 30, 1843. He attended a grammar school until fourteen years of age, when he entered the office of the *Colonial Times*, belonging to his father, to learn the business of printing, and subsequently joined the reportorial corps of that journal, and reported, in 1861–62, the official debates in the Provincial Parliament. In 1863 he began studying medicine, and was graduated from the medical department of the University of the City of New York in 1866. Then he became junior assistant in Bellevue Hospital, and later on house surgeon. In 1868 he was appointed Clinical Professor of Surgery in Bellevue Hospital, which position he held until 1882.

He established a large practice of his own in 1867, and soon after became consulting surgeon to the Charity Hospital, and visiting surgeon to St. Francis Hospital. He was on his way to recuperate his health, and also to attend the International Medical Convention to be held in Berlin. Dr. Howe was a Royal Arch Mason. He was a member of the New York Pathological Society, the County Medical Society, the New York Academy of Medicine, and wrote several works, among them "Winter Homes for Invalids," "Breath," and "Emergencies."

Dr. Howe was for a long time in feeble health, the consequence of an infection received during an operation upon a patient. His brave resistance to this depressing malady constantly brought out those finer qualities of mind and soul which were only known and appreciated by his intimate friends. In all this he gave an example of fortitude seldom seen, even in a profession noted for its self sacrificing spirit, and his death added another martyr to duty, and another sacrifice to suffering humanity.

At a meeting of the Medical Board of St. Francis Hospital, held June 18th, Dr. J. H. Ripley offered the following, which was unanimously adopted:

Whereas, The Medical Board of St. Francis Hospital have heard with profound sorrow of the death of our colleague, Dr. James W. Howe; be it

Resolved, That we desire as individuals, and as a Medical Board, to express our appreciation of our late fellow-member. As a bold and successful surgeon, always equal to the emergency, we valued his services in our institution. As a man of moral courage, ready to defend, by word or act, whatever he believed to be right, we respected him. As a frank, unselfish, large-hearted friend, we loved him.

Resolved, That a copy of this testimonial be sent to the bereaved family, and also to the Sisters of St. Francis Hospital.

Resolved, That these resolutions be spread upon the minutes, and be published in the New York MEDICAL RECORD, and also in the New York *Medical Journal.*

CARL H. LELLMAN, M.D.,
WALTER R. GILLETTE, M.D.,
J. H. RIPLEY, M.D.,
GEORGE F. SHRADY, M.D.,
GEORGE M. EDEBOHLS, M.D.,
Medical Board.

Society Reports.

AMERICAN PEDIATRIC SOCIETY.

Second Annual Meeting, held at Mott Memorial Hall, New York, June 3 and 4, 1890.

J. Lewis Smith, M.D., President.

(Continued from page 695.)

Some Manifestations of Rachitis not always Associated with Severe Bone Changes.—Dr. Walter L. Carr, of New York, from a paper on this subject drew the following conclusions: That rachitis is a disease of nutrition; it manifests itself in early life because that is the period of physiological growth, and anything which prevents or retards food assimilation will tend to cause or aggravate the disease; the chemical changes produced by malnutrition are not well understood; the symptoms of rachitis are often nothing more than catarrhs of the alimentary and respiratory tracts, delayed dentition, muscular weakness, and nervous irritability. Under proper hygienic and dietetic conditions these symptoms disappear.

A Fatal Case of Purpura Hemorrhagica.—Dr. Henry Jackson, of Boston, related the history of the case, that of a child which had been previously healthy, having had only an attack of measles from which it had made a good recovery. In June last he was sent for, and found the child playing in the yard, but peevish, and presenting small hemorrhagic spots on the legs and back, and one hemorrhagic bleb on the lip. During the day he passed a little blood with the dejections, and during the remaining days—the attack proving fatal in four days—had nosebleed, hemorrhage from the bladder and bowels, and hemorrhages into the skin. During the last three years a few cases of this kind had been reported, to which had been given the name by some authors of purpura fulminant or purpura foudroyant. It remained to be determined whether these cases had any connection with purpura, or whether they represented as yet an unknown infectious disease whose chief symptoms were seen in petechial hemorrhages similar to those seen in purpura. He thought it should probably be classed as an infecticus disease. It had been pretty well shown the hemorrhage was not due to any change in the blood itself. Some claimed there was a change in the walls of the vessels. It would be difficult to understand, however, how a disease so rapid in its onset should be due to a chronic endarteritis. The author was disposed to think there was some change in the vaso-motor nerves, probably produced by some micro-organism.

Purpura Hemorrhagica following Whooping-cough.—Dr. Earle, of Chicago, had within three weeks lost a child from purpura hemorrhagica following recovery from whooping-cough. He had treated the latter disease by a spray of carbolic acid solution, and the question suggested itself to him whether this might have had any influence in bringing on the fatal purpura hemorrhagica.

Fatal Purpura Hemorrhagica following Lancing of the Gums.—Dr. W. D. Booker, of Baltimore, related the history of a case in a child, eight months of age, which had recovered from summer diarrhœa, and was very nervous and restless. *The Lancet* had at that time rather advocated lancing the gums, under certain conditions, and this he did in the case of two incisors which were hard and white. Very little bleeding occurred at the time, but later it renewed and continued until checked, and then started from the lower gums; hemorrhagic spots formed under the skin, and, after four days, the child died. The autopsy showed some characteristic spots in the intestine. There was nothing to account for the purpura hemorrhagica.

Regarding the Pathology, Dr. A. Jacobi said no one would at present look to the condition of the blood as the cause of the hemorrhage; it must be in the blood-vessels or germ invasion. It was seen more commonly after measles than almost any other affection, and it seemed probable the micro-organism of this disease predisposed the blood-vessels to purpura hemorrhagica. Thrombic deposits in the lower extremities were not infrequent after measles.

The Disease Fatal before the First Year.—Dr. Rotch, of Boston, had seen altogether five or six cases of purpura hemorrhagica, and in no instance had he seen a baby under one year recover from it. He thought it was a germ-disease, and not simply dependent upon a condition left by some other disease. In none of his cases had it followed measles. One blooming baby died within forty-eight hours after the commencement of the purpura hemorrhagica.

Of Septic Origin.—Dr. Koplik thought in future we would have to look to some septic origin, and Dr. Fruitnight mentioned two fatal cases occurring soon after birth in infants whose mothers had puerperal fever.

The President said that in the Infant Asylum they also recognized syphilis as a cause.

Some Observations on the Stomach Capacity of Infants.—Dr. L. Emmet Holt, of New York, read a paper in which he gave the results of measurements of the capacity of the stomach after death, in one hundred and seven infants and children. A good deal of care had to be exercised not to over-distend the organ. Finally, he had adopted the rule to introduce sufficient water simply to straighten out the rugæ. In general it could be stated that, beginning with a capacity of one ounce at birth, the average child's stomach continued to gain one ounce a month up to the sixth month, and after that half an ounce a month until the end of the first year, so that it contained at that period eight or nine ounces. There were exceptions in children of unusually small size, and where the stomach was pathologically distended. But there was no such proportion between the weight of the child and capacity of the stomach. For instance, in four cases the stomach held one ounce, while the weight was three, five, seven, and nine pounds respectively; seven children weighed seven pounds, while the capacity of the stomach was one, one and a half, two, two and a half, five, and six ounces respectively, and so on.

While he did not recommend that because a child's stomach capacity at a certain age was so much, that quantity of food should always be administered, yet he did not think it should be much in excess. The stomach was extremely distensible, and might readily become dilated by administering a quantity in excess of its normal capacity. His observations showed also that physicians were likely to mistake dilatation of the transverse colon for dilatation of the stomach; that the stomach was essentially of the same shape from the first month until the third or fourth year. He had never seen the vertical stomach pictured in the books as present in infants; it lay somewhat oblique.

The Technique of Intubation.—Dr. Dillon Brown was the author. He had seen a great many cases of intubation, and he desired to present some of the practical points derived from his experience, and especially to call attention to the many badly made tubes and the many dangerous modifications of the O'Dwyer tube, which were sure to bring disparity upon one of the most brilliant and important operations of modern times. The difficulties of the operation had been greatly underrated. While it required but a few seconds to insert the O'Dwyer tube, and the immediate results were most brilliant and gratifying, yet he knew of no operation in surgery which was more brutal and shocking than the efforts of an unskilful man to intubate the larynx. He ventured the opinion that the great majority of deaths reported as due to the pushing down of membrane were really due to apnœa from unskilful and prolonged attempts, or to asphyxia from forcing the tube through a false passage. Neither Dr. O'Dwyer nor himself had ever had death on the table due to pushing down the membrane, although they had operated on nearly seven hundred cases.

All the modifications of the O'Dwyer tube which had been suggested or tried had previously been thought of and abandoned, because faulty, by Dr. O'Dwyer himself. The different sets used by Dr. O'Dwyer and himself were shown. The manner of making them, which was difficult, and therefore costly, was explained, and they were contrasted with the dangerous models in the market.

Simple but Efficient Medication in Pediatrics.—Dr. C. W. Earle, of Chicago, in a paper with this title, warned the younger members of the profession against the evil and too prevalent habit of always prescribing when first called to a patient, even before it was possible to make a diagnosis, and before it was known that any medicine was indicated; or changing the drugs when there was no real need of it, and thus having a table covered with partly emptied bottles at the end of the case; of combining numerous drugs in a single prescription; of giving nauseating preparations. Nearly all drugs now recognized as useful could be administered in a form pleasant to the taste.

The views expressed in this paper were heartily endorsed by Drs. Carr, Holt, Seibert, Koplik, and Fruitnight, who believed in testing single remedies in an agreeable form, rather than in compound prescriptions.

Discussion—The Use of Alcohol in the Treatment of the Diseases of Children.—Dr. August Seibert opened the discussion with a short paper, and was followed by Dr. Winters.

Dr. Seibert said that, sentiment laid aside, alcohol had its uses in the treatment of diseases of children. We could not entirely discard it because harm sometimes resulted, any more than we could discard opium for the same reason. Nor could we determine its full action in diseases in every direction, any more than that of any other drug, and our views should be modified regarding its uses by the extent of our knowledge. Its chief action in disease was a stimulating one, and its chief influence was upon the nervous, circulatory, and digestive systems. It was useful in counteracting the nerve-depressing influence of typhoid, intermittent, and some other affections. The organs of circulation responded very actively to it, the heart was able to do better work under its limited influence in disease, and we were therefore inclined to give it in diphtheria and some other affections. While the digestive organs were excited to increased action under alcohol, yet the action of the gastric juice was interfered with, and digestion in the stomach influenced unfavorably. It should not, then, be given where the stomach was affected, or as long as it was possible to keep up nutrition by the stomach. It was called for oftenest in acute infectious diseases; as a rule he preferred whiskey, gave it in gruel as an enema, or by bathing, and used large quantities if any.

No Fixed Rules.—Dr. Winters could give no fixed rules governing the use of alcohol in acute diseases in childhood. Each case must be a rule unto itself. In practice he found himself making a great distinction, according to whether alcohol was used for its effect upon the heart and circulation or for an indirect effect through its tonic action. In the first instance he gave it as a stimulant to tide over an emergency in acute diseases, especially pulmonary diseases. It was seldom called for in lobar pneumonia; in broncho-pneumonia he seldom used it until the inflammatory stage had pretty well passed. In all pulmonary affections in which the superficial veins became full he used it early and constantly. In all acute diseases in which there was much restlessness, and sedatives failed to soothe, alcohol would usually produce a sedative effect. If there were delirium, or indications of cerebral congestion, alcohol would likely do harm. In acute infectious diseases, excepting diphtheria, he hardly ever gave alcoholic stimulants.

Large Quantities of Alcohol in Diphtheria and Broncho-pneumonia.—Dr. L. E. Holt had been surprised to find how large quantities of alcohol children could bear who had diphtheria or broncho-pneumonia, thrive under it, and have no cerebral symptoms produced by the action of the drug. In administering it one should be guided by the effect produced rather than by the quantity.

An Antidote to Toxæmia.—Dr. J. H. Fruitnight had found alcohol apparently an antidote to the toxæmia of diphtheria, large quantities being borne without producing cerebral symptoms.

Gives Alcohol in Diphtheria and Typhoid Fever.—Dr. Vaughan, of Ann Arbor, relied almost entirely upon alcohol in typhoid fever as it was seen among children in Michigan, and seldom found any other drug called for in mild cases of diphtheria.

Alcohol not Called for in Typhoid Fever.—Dr. H. D. Chapin said that typhoid fever as it existed among children in New York was a mild affection, and seldom if ever called for alcohol.

Contra-indications to Alcohol.—Dr. A. Jacobi mentioned some contra-indications, especially the presence of cerebral symptoms, or symptoms of cerebral congestion.

Summer Diarrhœa in Infants.—Dr. C. W. Townsend, of Boston, gave on this paper a general study of summer diarrhœa in infants treated the past three years at the Sea-shore Home, a detailed study and account of each case, regarding symptoms, treatment, weight, etc., having been kept. He divided the cases into those of cholera infantum, of gastro-intestinal catarrh, and of intestinal catarrh. Altogether there were two hundred and thirty-six cases. The change of air from the heat of the city to the country was alone sufficient in some mild cases to effect a cure, and in severe ones it caused a marked improvement, but in the latter a change of diet was also called for. The majority of cases had a change of food to a mixture composed of milk, some farinaceous articles, as barley, etc. They did better the past two years, during which sterilizing the food had become the custom. Among drugs used were bismuth, salicylate of soda, lactic acid, and resorcin, but no general conclusions regarding their value were reached. Lavage of the large intestine had been practised in a few cases, and he was encouraged to continue it. He had not tried stomach washings.

Contribution to the Chemical Study of the Summer Diarrhœa of Infants.—Dr. V. C. Vaughan, of Ann Arbor, said the proof was becoming stronger and stronger that the summer diarrhœas of infants were not due to a specific micro-organism, but to the proteids of different varieties of germs. The basis of this paper was experiments with three varieties of germs sent him by Dr. Booker, of Baltimore, which had been isolated from the contents of the intestines in diarrhœal cases. In his first contribution Dr. Booker had reported eighteen varieties, and in his second had added fifteen more. Those sent to the author were numbered E, K, and S. With the chemical results of these germs upon albumin this substance acquired poisonous properties, so that when injected into the skin of dogs it produced vomiting and purging, and, if a sufficient quantity were used, death. Among his conclusions was, therefore, that any germ which was capable of growing and producing an absorbable poison in the intestine should be considered a pathogenic germ; that it was not necessary the germ itself should be capable of growing and causing disease and death when injected into the skin and blood in order to give it a place among the pathogenic varieties.

Some Points in the Etiology and Treatment of Diarrhœal Diseases of Infancy.—Dr. F. M. Crandall, of New York, read the paper. A tabulated history of one hundred and thirty-five cases was given, and several hundred cases previously seen partly formed the basis of the study. Like other observers, he found children over two years almost entirely exempt, moisture and heat gave no indications of the number of cases occurring during the several summer months. Injections had done good; he used two to four quarts, with salt or borax, thus washing the bowel out thoroughly, but indiscriminate irrigation in ordinary diarrhœa was to be condemned. Among the

indications were small mucous passages, straining and tenesmus, pus, clear mucus, or blood in the stool. Acids were more commonly useful than alkalies. The latter seemed most efficacious in the early stage, marked with sour vomiting.

Dr. Chapin read results of experiments regarding the effects of sterilization on the solubility of the caseine in cow's milk. It seemed to coagulate in smaller clots after sterilization.

Starvation as a Means of Sterilizing the Intestine.—Dr. Booker gave at some length his studies of the bacteria of the intestine in diarrhœas, and said that, so far as sterilization by way of the stomach was concerned in the treatment of diarrhœas of infancy, he thought it offered little hope of success. Milk reached the intestine before the juices of the stomach could manifest sterilizing or disinfecting effects. We were to look rather to starvation, and change of food according to the condition of the stools. In the acute cases he had obtained benefit from intestinal irrigation.

Dr. Fruitnight depended mostly upon change of air and regulation of diet.

Dr. Holt did not think we could disinfect the intestine, especially the lower, by drugs taken into the stomach. He divided the diarrhœal cases into two classes, the first including those in which there was no more than a superficial desquamation of epithelium, the second in which there were actual inflammatory changes.

Dr. Blockader said one of the best ways to prevent absorption of the bacteria or their products was to sustain the vital powers of the child.

A Case of Congenital Influenza.—Dr. C. W. Townsend read the history of the case. The mother had influenza, and the infant had symptoms like the mother which he could account for in no other way than on the supposition it was influenza. It recovered.

In the discussion which followed the President said he had seen one case of influenza in a child of four months, Dr. Fruitnight one in a child of six weeks, while Dr. Northrup doubted whether the disease ever occurred in those under two years, and others testified to its rarity in young children.

Case of Cardiac Anomaly.—Dr. John Dorning, of New York, presented the heart of a child which died, aged ten years, and which during life had attacks relating to obstructed circulation, such as dyspnœa, cyanosis, etc. There was a heart murmur. The autopsy showed the right ventricle very much hypertrophied, the heart as a whole much hypertrophied, weighing fourteen ounces; the left auricle and left ventricle not much hypertrophied. The aorta arose from the right ventricle, the pulmonary artery from the left ventricle, the foramen ovale patent and having acted undoubtedly as the safety-valve. The child had lived through an attack of pertussis.

Effects of Asphyxia in the Newly-Born.—Dr. A. Jacobi presented a child, four years of age, as illustrative of a class of cases of semi-paralysis and arrested mental development, epilepsy or idiocy, caused by asphyxia of longer or shorter duration immediately after birth. He said he had seen scores of such cases.

Etiology of Empyema in Children.—Dr. Henry Koplik, of New York, read a preliminary paper on his bacteriological study of empyema in children seen in private practice and in the wards of Dr. Scharlau at the Mount Sinai Hospital. There were twelve in all. There were seven belonging to the characteristic group in which the pneumococcus of Fraenkel and Weitzelbaum was shown in pure form, tested by inoculations on animals. In three no characteristic micro-organism was found; in one the tubercle bacillus was found in the pus, while in another, a baby of eight months, there was a pyæmic cause arising from an abscess of the foot, the streptococcus pyogenes being found. Thus it would be seen what a large proportion (seven of the twelve cases, and perhaps some or all of the three giving doubtful results in the experiments) of complicated processes there were in the lungs of an acute character, and which might be effectually combated by early and proper treatment. In two of the seven only serum was found at the first aspiration, but it contained streptococci, and soon became purulent.

A Case of Empyema, with Expectoration of Pus — Thoracentesis—Recovery.—Dr. J. H. Fruitnight read the history of the case, which occurred in a girl, eight years of age, who had recovered from typhoid fever, had pleurisy in November, presumably purulent, but thoracentesis was declined until after pus was expectorated. Under washings of the pleural cavity and hygienic conditions the child recovered, and now showed little or no collapse on that side.

How to Prevent Diphtheria.—Dr. A. Caillé in this paper discussed municipal control in New York. His remarks were based on the modern view that diphtheria was due to a micro-organism which usually became implanted on the upper air-passages, and that moisture and want of sunlight were favorable for its propagation. Measures against the disease related, first, to the abolition or destroying of the poison; second, to the prevention of infection when it existed. Separate headings related to the schools, both public and private, the homes of the people, hospitals, disinfecting stations, isolating hospitals, and street cleaning. Schools, he said, were the chief sources in spreading the poison, and there should be physicians to examine the children's throats every morning, and all with catarrhal or other changes should be sent home and to the family physician. The services of three hundred physicians for about an hour daily would be required, say on a salary of three hundred dollars a year, costing the city about one hundred thousand a year. As to tenements, he thought there should be an annex for all waste-pipes. Other measures already in use by the Health Department were explained.

How to Prevent Scarlet Fever.—The President of the Society read a paper on this part of the general discussion on "How to Prevent Diphtheria and Scarlet Fever." The micro organism of scarlet fever had not been positively ascertained, but its effects were known from clinical observation. The contagiousness probably did not cease until after desquamation had passed, and it had been said the discharges from the otitis due to it were contagious. Quarantine in a small room attached to one of the wards at the Foundling Asylum in this city had been sufficient for scarlet fever, but not for measles. The contagious element was more fixed and less diffusible in the former. It remained in clothes a long time. Most prophylactic measures consisted in isolation of the patient, disinfection of the person and air which surrounded him, and of objects and persons in close relation with him. He called particular attention to the danger in books handled by the sick with scarlet fever, for in them the contagious element remained a long time. At his first visit he wrote a prescription for carbolic acid and oil of eucalyptus, of each one ounce; spirit of turpentine, six to eight ounces; mix, add two tablespoonfuls to a quart of water, put in a broad basin and maintain a state of constant simmering over an oil-stove. He also ordered an inunction of the entire surface of the patient every three hours with carbolic acid and oil of eucalyptus, each one drachm; sweet oil, seven ounces. A solution of corrosive sublimate might with advantage be applied on a probe and cotton to the tonsils and pharynx, and ten drops of a solution of two grains to the pint syringed into the nostril every two hours in the young infant. Then there should be constant ventilation during the active period of the fever, no article should be sent from the room unless properly disinfected, new families not allowed to move into the apartments before proper disinfection, the physician should disinfect his hair and entire person, and not wear the same outer clothing when going to see midwife cases.

Officers were elected as follows: *President*, Dr. T. M. Rotch, of Boston; *First Vice-President*, Dr. V. C. Vaughan, of Ann Arbor; *Second Vice-President*, Dr.

Joseph O'Dwyer, of New York; *Treasurer*, Dr C. W. Earle, of Chicago; *Secretary*, Dr. W. D. Booker, of Baltimore; *Recorder*, Dr. W. P. Watson, of Jersey City; *Member of Council*, Dr. W. P. Northrup, of New York.

MEDICAL SOCIETY OF THE STATE OF NEW JERSEY.

One Hundred and Twenty-fourth Annual Meeting, held at Schooley's Mountain, June 10 and 11, 1890.

B. A. Watson, M.D., President, in the Chair.

Permanent Delegates. — A resolution was offered, to be acted upon next year, providing for the election of permanent delegates by county societies.

The President's Address.—Dr. B. A. Watson chose as the subject for his address, "A Historical Sketch of Surgery—Ancient, Mediæval, and Modern," going over the ground as thoroughly as was possible in the course of the two hours consumed in reading the paper. He mentioned not only the important discoveries and special fields of advancement in surgery during the present century, but also ventured to name some of those worthy of special mention during this as well as former periods.

Let us dedicate a monument, he said, to those who have immortalized their names on earth by untiring efforts in behalf of suffering humanity.

Hydrophobia.—Dr. Paul Gibier, of New York, present by invitation, read the paper. The period of incubation had been stated to have varied in man from a few days to two years. It was greater in man than in animals, because the former was less susceptible. He believed death was more frequent in animals because the latter received no treatment. He knew of no case in which the disease had been cured in man after it had once manifested characteristic symptoms. But instances were not rare in which dogs had returned to a normal state after showing unquestionable rabies. Hens and birds recovered spontaneously. Birds once affected subsequently had immunity. Symptoms appeared sooner when the virus was introduced into a vein than when it passed, as seemed to be the case, by way of the nerve-tissue to the central nervous system.

Passing to the results of the inoculative process of Pasteur, he quoted statistics from different institutes founded since 1886. The percentage of deaths among persons bitten by mad dogs, untreated by inoculation, had been about eight per cent.; with inoculations, during 1886–87, it had been about 1.1 per cent.; during 1888 it had fallen to about 0.67 per cent., covering hundreds of cases. It was thought possible to reduce it to nearly zero.

Inoculations after the development of hydrophobic symptoms were useless, yet he had received one patient, a doctor from Illinois, at the institute in New York, who had already complained of tingling sensations at the seat of the bite of six weeks before. These sensations disappeared after the inoculations, and the patient, also his daughter, who had been bitten by the same dog and received treatment, had since remained well. He had treated in all about thirty patients at the New York institute since it had been opened in February last, with no deaths.

Quinine in Epidemic Influenza.—It appeared from the report of the Standing Committee that during epidemic influenza throughout the State, physicians found quinine at an early stage, or even later stage, in too large doses, produced a tendency to congestion and pneumonia. Many had found antipyretic drugs increase the tendency to heart failure.

To Investigate New Jersey Dairy Cows.—Dr. Coit called attention to the fact that the feeding and health of dairy cattle in the State, had not been made a subject of investigation by the medical profession, as it should, and offered a resolution, which was adopted, authorizing the President to appoint a physician from the several county societies to inquire into the feeding and condition of dairy cattle in their respective counties.

Does the Early Administration of the Salicylates in Acute Articular Rheumatism Prevent Heart Complications?—Dr. E. J. Marsh opened the discussion with a review of this mode of treatment as it had been practised by some of the most reliable authorities since its introduction, about fifteen years ago. When he was a student the prevailing treatment was the alkaline, as practised by Dr. Fuller. This was thought not only to relieve the pain and swelling, but also to ward off heart complications, and Dr. Fuller had stated that, out of four hundred and seventeen cases which he had treated by alkalies, only four developed cardiac trouble. Yet hundreds of cases of cardiac complication continued to develop, and the profession was ready to try the salicylate treatment as soon as reports of its success in Germany reached this country. In 1876 Dr. Alonzo Clark tried it in Bellevue Hospital, and reported several cases in which salicylic acid had a very marked effect in diminishing fever, pain, and swelling of the joints, and in causing early convalescence. This experience was soon repeated at the hands of many practitioners, and at first cardiac complications were likewise thought to be less frequent, but time had not substantiated the latter view. Professor Flint had recommended, indeed, continuance of the alkalies to prevent heart complications, while the salicylates caused earlier relief from the joint affection. It then began to be questioned whether there were not more or earlier relapses after salicylate treatment than without. In discussions at the London medical societies the fact was brought out that the treatment of acute articular rheumatism, almost universally resorted to in the hospitals in that city, included salicylates. But it was not made to appear that heart complications were less frequent, while it had been pretty well agreed that when a heart murmur had formed the salicylates had no influence in checking the cardiac inflammation. Dr. Loomis, in his recent book, had stated that the treatment by salicylates increased the liability to heart complications, but this was the strongest adverse opinion which he had seen.

In the discussion which followed, Dr. Halsey expressed the view that salicylates not only did not control heart complications, but aggravated them; while Dr. Baldwin, who was himself a sufferer from rheumatism, continued the use of the salicylates longer than usual, and found they acted, as it were, as a prophylactic, recurrences being less likely when so used. Combined with oleic acid, it relieved pain in rheumatic nodules when applied locally, salicylate of sodium being given internally at the same time. Dr. English had found that when the salicylates drove the acute into the subacute stage, a cure would be effected earlier by giving iodide of potassium than by continuing the salicylates alone. Dr. Barker found salicylates alone did not prevent heart complications, but when combined with opium, which reduced nervous irritability, they did have this effect. When the urine was acid in one of rheumatic tendency, it seemed alkalies changed the character of the fluids so as to make them inimical to the germ, or whatever might be the cause of rheumatism.

Is Diphtheria Primarily a Local or a General Disease?—Dr. Selover opened the discussion with a paper in which he took emphatic ground in favor of the view that diphtheria is primarily a local, not a general, disease, although he admitted, with Dr. Barker, that the local manifestations might be little apparent, or be so soon followed by constitutional disturbance as to make it seem the disease was in the first place general. Fewer, who took part in the discussion, however, agreed with him that croup was noncontagious, and Dr. William Perry Watson said that in Hudson County the health authorities placed croup in the list of contagious diseases which required to be reported.

A Plethoric Treasury.—There being a surplus in the treasury, a resolution was adopted to invest thirteen hun-

dred dollars in United States bonds, making in all so invested about four thousand dollars.

To Establish a Library.—The Committee on the President's Address, read last year, did not think it advisable to divide the meeting into sections, nor to establish a journal for the transactions, but recommended establishing a local library at Trenton, which recommendation was adopted.

Delegates from other Societies.—Dr. Fleischner, of the Connecticut State Medical Society, and Drs. Cox and S. A. Fox, from the New York State Medical Society, were introduced, and the two former made some remarks favoring higher medical education. Dr. Reynolds, delegate from the New Jersey State Pharmaceutical Association, read a paper in which he showed the evils resulting from the prescribing of proprietary medicines, and named some in which the compound was not what was represented. One of the worst evils was that families bought these drugs without a physician's prescription, and thus often contracted the morphine, chloral, or other drug habit.

Fathers and Sons.—Dr. George T. Welch chose this title for a paper in which he showed some absurdities of medicine, as practised by our fathers and grandfathers, absurdities which persisted in no small degree to-day, though not always in the same form. The greatest abuse had consisted in the prescribing of nauseating mixtures. While the more intelligent were coming to recognize the fact that health was to be obtained by inhaling the cool and pure air at the sea, on the mountain, by rowing, climbing, etc., rather than by dosing with drugs, yet let him who believed that drugs were going out of date consult the prescription-books of the apothecaries, or the list of drugs imported into this country the past year. There had been over a million dollars' worth imported, the vast majority of which were for the invalid world. Of cinchona bark there had been over two million pounds, and of sulphate of quinine over two million ounces; of opium over two hundred thousand pounds; morphine over twenty thousand pounds; of balsam of copaiba over one hundred and sixty-three thousand pounds; and other drugs in like large quantities. While drugs had their place, yet it could be safely said that the sanitarian had saved more persons than all the doctors of the last century, Jenner excepted.

The Census Inquisitorial.—On motion of Dr. Lehrbach a resolution was adopted, previously adopted by the Essex District Society, to the effect that it did not consider it necessary or proper to comply with the request sent to the physicians of the United States by the Census Bureau.

Officers were elected as follows: *President*, Dr. James S. Greene; *First Vice-President*, Dr. E. T. Marsh; *Second Vice-President*, Dr. George T. Welch; *Third Vice-President*, Dr. J. G. Ryerson; *Corresponding Secretary*, Dr. William Elmer, Jr.; *Recording Secretary*, Dr. William Pierson; *Treasurer*, Dr. W. W. L. Phillips; *Standing Committee*, Drs. T. T. Smith, D. C. English, E. P. Townsend; *Business Committee*, Drs. H. R. Baldwin, W. V. Selover, H. G. Taylor, G. Van Wagenen, W. B. Johnson; *Committee on Prize Essay*, Dr. D. McLane, Forman; *Committee on Membership*, Drs. H. G. Taylor, A. W. Rogers, Charles J. Kipp.

Artificial Hypodermic Respiration.—Dr. F. Cobos, writing in the *Revue d'Hygiène Thérapeutique*, advises the use of large hypodermic injections of oxygen in cases of suspended respiration from any cause, especially in those cases in which there is some mechanical obstruction to the entrance of air into the lungs. By means of a hypodermic needle attached to a reservoir containing the gas, he produces an artificial emphysema over a considerable area. He has satisfied himself by experiments that the gas so injected is readily taken up into the blood, and there works the same changes as it does when acting upon the blood circulating in the pulmonary capillaries.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting. April 28, 1890.

Alexander S. Hunter, M.D., President, in the Chair.

The Treatment of Diarrhœa in Early Life, Dietetic, Mechanical, and Medicinal, was the title of a paper read by Dr. H. D. Chapin (see p. 697).

In Mild Cases Change of Diet Sufficient.—Dr. Joseph E. Winters said the majority of cases of mild infantile diarrhœa followed indigestion or dyspepsia, and little more was required in the way of treatment than a modification of the diet. It usually required to be diminished in quantity if not changed in character, be administered less frequently and less rapidly—for most of the patients were artificially fed—and change the diluent. Instead of diluting the milk with water, use barley-water, and it might be necessary to give lime-water.

Regarding dangerous cases, they were nearly all due, not to too frequent feeding, or over-feeding, or the use of too concentrated food, but to the ingestion of food which had undergone some change. This form of diarrhœa might occur during either winter or summer. During the recent thunder-storm a very considerable number of severe cases developed, doubtless owing to changes which had taken place in the milk. This change having taken place before the milk arrived in the city, sterilization here had no effect upon it. During the hottest days no milk was safe as food for infants unless it had been sterilized just after milking. In these acute cases milk in no form could be digested, and it was difficult to find a substitute which would nourish the child for even forty-eight hours. The substitute should be nourishing and stimulating to the nervous system. There were two articles which he used a great deal, one an animal broth, the other a farinaceous article, say barley-gruel, used together or separately. Both might be made strong enough to form a jelly when cool. To them he added a little brandy. These foods he thought were most useful in lieu of milk, but they could be employed only for a short period. First, however, all food should be stopped until the stomach and intestine had been cleared. As to modern methods in these cases, he would be afraid of the result Dr. Chapin had mentioned if the stomach-pump were used. He would not dare resort to washing the stomach in private practice. But he washed out the lower bowel, ridding it of offending material, as had always been his custom. It was likely, after clearing the intestine by some drug, washing the lower bowel, and withdrawing milk, that the stomach would stand teaspoonful doses of the broth and gruel, but if the intestinal irritation kept up he would give some sedative, and the best was opium, the first dose being small, and sufficient time elapsing for the influence of the first to have passed off before administering a second. Opium should never be administered in frequent and small doses in these cases.

Dysenteric Form.—A third form of diarrhœa in children was a form of dysentery, and might be due to cold or exposure. Sudden pain and diarrhœa came on, and after the first two or three passages blood was seen, also mucus, and finally pus. These cases were troublesome, and must be managed almost entirely by attention to diet, such food being given as could be digested in the stomach, leaving little residue. They were the cases which did best on peptonized and pancreatized foods. But diarrhœas which originated in the upper part of the intestinal tract did not, it seemed to him, do well on peptonized foods.

Treatment Depends on the Form of Diarrhœa.—Dr. Walter L. Carr referred to the empiricism of the past in the treatment of diarrhœas of children, and said we had come to recognize the fact that the treatment must depend upon the form of the disease. Simple dyspeptic diarrhœa could sometimes be relieved by very simple

measures, while inflammatory conditions had to be treated in a special manner and the drugs employed be given for a longer period. The experimenters with the newer drugs had obtained very good results, probably because they had tried them in simple dyspeptic cases which ought without them to have got well within a few days. In gastro-intestinal catarrh, calomel was one of our best drugs for increasing the flow of bile and pancreatic juice, and in that way of increasing the peristaltic action of the intestine, and removing irritating material. It might in itself have some action in preventing decomposition and the development of bacteria. He stated objections to bichloride of mercury, discussed the virtues of the salicylates and of naphthol. Said salicylate of bismuth promised to be of great efficacy, and that the indications for opium had been well pointed out by the previous speakers.

Summer Diarrhœa.—Dr. J. Lewis Smith discussed the treatment of summer diarrhœa in infants, and first spoke of the intestinal lesions, which he had examined at a great many autopsies. In all instances, or with few exceptions, there was an entero-colitis, the inflammation being most marked in the ileum and colon, especially adjoining the ileocæcal valve. There was seldom more than an arborescent appearance in the stomach and duodenum. Under four months of age there was considerable vascularity of the entire intestinal tract and also of the buccal cavity. In the severe cases, in which death took place early, this vascularity was not observed, but there was a soft, sodden appearance of the mucous membrane of the intestines. In these very cases, however, when they continued ten days or two weeks, the usual inflammatory changes mentioned were present. There was little evidence that the liver was at fault, for which formerly calomel was so much administered.

Regarding milk, we should insist on obtaining milk bottled in the country, instead of that delivered in cans. In sterilizing, he had the milk steamed two hours. If the family had no other way, the bottle could be placed on a cup in a tea-kettle, the water not touching the bottle. After long sterilization, the casein did not form such large curds in the stomach. For farinaceous food, during the last two years he had recommended barley-flour subjected to heat by boiling water for seven days. Thus considerable of the starch was converted into dextrin, which was readily digested. If the barley could not be subjected to heat for seven days, let it be a good part of one day. Even children under three months could take such food. He did not think irrigation of the stomach necessary. Bismuth was the safest and best antiseptic. Alkalies destroyed to a great extent the digestive powers of pepsine when administered at meals. Much harm had been done by opiates in advanced cases, or the so-called spurious hydrocephalic form, yet opium had a good effect in some forms in arresting peristaltic action sufficiently long to allow food to become absorbed. He had seen injury from laudanum, but not from paregoric, and in the latter the camphor had a beneficial influence.

Dr. Dorning thought it was a hopeful sign to see the profession giving attention so much to dietetic treatment of summer diarrhœa. In the first place, we should seek to induce rest in the inflamed mucous membrane, and for this reason food should be abstained from, during twelve to forty-eight hours, in the meantime, giving only sterilized water. Most children would stand egg-water. He approved of mutton broth, but objected to farinaceous foods in infants under four months. He had tried mechanical treatment twice in private practice, and had been dismissed as family physician. He began with a laxative, calomel or castor oil, and found bismuth the best antiseptic.

Washing the Stomach Caused Family Commotion, at least in Dr. Crandall's experience. The same object, cleansing of the stomach, could be accomplished by giving the child warm water, which it would soon eject.

Diarrhœa as it Occurs in the Country.—Dr. Goodridge, of Flushing, thought that diarrhœa in young children was somewhat different in country from that in city practice and led to somewhat different treatment. In the country it was usually acute when the physician was called, and was much more largely due, perhaps, to overfeeding or injudicious feeding. In such cases, the child being well nourished, it was his practice to withdraw all food twelve or twenty four hours, and this, with clearing out the bowel, usually sufficed.

Dr. Chapin said milk bottled in the country was best, but he had been told it was usually not bottled until it reached the city. In experiments on a dog he could see little difference between raw milk and sterilized milk on taking it from the stomach some minutes after its introduction through a gastric fistula.

INDIANA STATE MEDICAL SOCIETY.

Forty-first Annual Session, held at Indianapolis, Ind., May 14 and 15, 1890.

Dr. J. D. Gatch, of Lawrenceburg, President.

Dr. E. S. Elder, of Indianapolis, Secretary.

The secretary reported 844 members, and the treasurer, Dr. F. C. Fergueson, of Indianapolis, reported $1,406.81 in the treasury. An hour was spent in eulogistic speeches in memory of Dr. Thomas B. Harvey, who died during the past year. A committee, consisting of one member from each county, was appointed to attend to the enforcement of the law suppressing quackery. Dr. William Cluthe, of Tell City, was appointed chairman.

A dinner was given by the faculty of the Indiana Medical College to the members of the Indiana State Medical Society. Dr. L. D. Watterman, of Indianapolis, gracefully presided as toast master. Dr. E. S. Elder responded to the toast, "Our Guests," and Dr. E. S. McKee, of Cincinnati, to that of "Medical Journalism;" Dr. Edwin Walker, of Evansville, "The Indiana Medical Society," Dr. J. C. Sexton, of Rushville, discussed the "Relation of the Physician to Medical Education."

Officers elected: *President*—Dr. G. C. Smyth, of Greencastle; *Vice-President*—Dr. H. C. Wood, of Angola; *Secretary*—E. S. Elder, of Indianapolis; *Assistant Secretary*—Dr. H. C. Reade, of Tipton; *Treasurer*—Dr. F. C. Fergueson, of Indianapolis.

Homœopaths, Eclectics, and Regulars.—A peculiar feature was that the Homœopaths, Eclectics, and Regulars were all meeting in their annual State Convention on the same days and in the same city.

Papers were read on "Sciatica," by Dr. W. H. Thomas, of Indianapolis; "Headache in Relation to Eye Strain," by Dr. J. P. Worrell, of Terre Haute; "Acute Inversion of the Uterus," by Dr. G. T. McCoy, of Columbus; "Tonsillitis," by Dr. L. C. Cline, of Indianapolis; "Corneal Ulcer," by Dr. J. L. Thompson, of Indianapolis; "A Case of Splenectomy," by Dr. L. J. Willien of Terre Haute.

An Ischiophagus, was the striking title of a paper read by Dr. T. O. Armfield, of Tipton. It referred to the famous Tipton County twins, and gave a minute clinical history of this two-headed baby. The brains of both children were quite well developed, and the children quite handsome and exceedingly bright for their age. One would cry while the other laughed or slept, and one would experience pain while the other felt well. They were placed in a museum circuit when three months of age, and one died at Buffalo, N. Y., when eight months of age, from measles. The other died forty-five minutes later from shock, from the cold blood rushing into its veins from the dead child, and its inability to oxygenate the blood from the dead child.

What of the Day?—The President, Dr. J. D. Gatch, took for his subject, "What of the Day?" The doctor thought the destiny of the medical profession a glorious one. The great aim of science is the discovery of truth, and the proverbial veneration entertained for it by the

human mind is a sure indication that truth will be conducive to the real progress of nations and individuals. Every lover of truth is a lover of knowledge. The mind is the grand regulator of the heart. The laws of nature are all simple, and are readily comprehended by a mind of ordinary capacity when separately announced. How could it be expected that in the general enthusiasm for useful knowledge, medicine should escape, or that its secrets should escape from a scrutiny that has spared nothing? The present century of professional life indicates wonderful advance, and is keeping step with steam, with electricity, with scientific education, and with progress in every department of public interest. When one recalls the wonderful activity in the collateral sciences which are the handmaids of progression, the application of the development of physical sciences to the solution of vital problems, the remarkable development in both normal and pathological histology and histo-chemistry, the great improvements in the construction of instruments, and the introduction of new methods of investigation, it leads him to think the present century one of very great progress.

Some Emergencies Demanding Abdominal Section, a paper by DR. J. C. SEXTON, of Rushville, excited a spirited discussion. This paper was a critical review of cases coming under the author's personal observation, which had in his opinion been improperly treated, and which operation might have saved. He urged the performance of section at once in traumatic perforation. He held that administering opium in these cases is the greatest possible error. He severely criticised the policy of waiting for the subsidence of shock before beginning operation, quoting Dennis, of New York, and Price, of Philadelphia, as supporting his view. The author stated that in one of his cases the patient was "shocked to unconsciousness—pulse imperceptible, scarcely bleeding from a lacerated omentum that protruded from the abdomen"—who rallied so promptly upon filling the cavity full of hot water, that in ten minutes the anæsthetic was given and operation begun.

The essayist made reference to Dr. McMurtry's famous case of section for perforation of colon and suppurative peritonitis, and said Dr. McMurtry had added another gem to Kentucky's bright crown of surgical glories. The paper added "this honor might have come to Indiana and Rush County, for the opportunity was present, and the situation not grasped."

The diagnosis of appendicitis indicated immediate section in the opinion of the essayist. Senn and Treves do not hold this view, but advise waiting until the interval between attacks. He cited four cases coming under his observation in one year, and said that authority for the old treatment by opium and blister could not be found in any text-book or journal published in the last five years.

A case of supposed uterine pregnancy was mentioned, and the fact deplored that the abdomen was not opened, as it was clear that the woman bled to death internally.

A case of dystocia from the cicatrix left after a high amputation of the cervix was described, and the doctor held that abdominal amputation of the uterus would have been a better procedure than a high forceps delivery after cutting through the cicatrix. He condemned the conduct of some who would do nothing themselves, nor allow anything to be done, where operation alone could save life. He said we are all willing to subscribe to the doctrine of certain men, that there should be "fewer laparotomies by the many, and more by the few;" but this dictum does not excuse ignorance of the subject, nor prevent preparation for emergencies demanding prompt action.

Some of the Problems of Bacteriology, was the subject of a paper read by DR. THEODORE POTTER. He said there is no subject which has occupied so large a part of the interest and attention of the profession during the last decade as the germ-theory of disease. The medical historian of the future will describe our age as chiefly characterized by the development in this direction.

Bacteriology has entered all the fields of medicine, modifying our ideas of etiology, pathology, diagnosis, treatment, and prevention. In the broader sphere of preventive medicine it has brightened our hopes for the coming of a better day. It has stepped in with an offer of aid in the solution of some of the important questions of medicine, but problems have arisen in this work, among them being:

Questions of the susceptibility of animals to the infectious diseases; the durability of disease germs and the methods of their dissemination; of disinfection; whether each of the infectious diseases is due to a single and specific cause; of hereditary transmission.

The essayist showed how the uncertainties connected with inoculation experiments upon animals threw an obstacle in the way of reaching positive conclusions as to the specific pathogenic character of certain bacteria, as illustrated in the investigations of such diseases as cholera, typhoid, diphtheria, syphilis, etc. Either we shall have to make more experiments upon men, criminals perhaps, or we must learn more than we now know of the exact relation of animals to the infectious diseases.

Durability of Infectious Material.—As to the durability of infectious material and its dissemination, the idea chiefly emphasized was, that by means of bacteriology our knowledge had become more positive and definite. Having identified a certain material thing as the essential infecting agent, having learned the conditions of its existence and how to recognize it, we are better prepared to detect it in its hiding-places, to trace it from place to place and person to person, and to determine how long it remains dangerous.

Similarly, more definite knowledge has been obtained of the efficiency of disinfecting agents, and of the distinction between disinfectants and deodorants. Knowing what is to be destroyed, we may more easily decide whether or not our efforts to disinfect rags, sputa, fæces, hands, and instruments have been successful.

Each of the infectious diseases is probably due to a specific cause. But the investigation of pneumonia and diphtheria, for instance, has made it an open question which bacteriology does not answer with positiveness as yet. The relation between puerperal fever and erysipelas, revealed both by clinical observation and experiment with cultures, seems to show that a germ may, under different conditions, produce apparently different disorders.

Heredity.—As to heredity, laying aside for the time being secondary and predisposing causes, the question is, whether the germs or spores exist in the body at birth. The methods of investigating this problem were explained, especially as they bear upon tuberculosis. The opinion was expressed that the older ideas of the direct heredity of tuberculosis were at least exaggerated; but we are not yet warranted in asserting that neither is the disease, nor a predisposition to it, ever inherited. The laws of heredity are not violated by the prevailing opinion in the profession as regards the latter, particularly, and some able but not infallible authorities may have to recant before many years have passed. In conclusion, the writer urged that bacteriology is not merely a laboratory occupation, or a microscopic study, but a study of pathology and the causation of disease, and the problems which gather about these two great fields. It is only as we thus think of it that we shall be able to understand what it is, and what it means to the progress of medicine.

The Electric Lamp for Neuralgia.—A correspondent writes that he has several times obtained much relief, when suffering from facial neuralgia, by applying to his face an incandescent electric light. He suggests that the lamp could also be used in poulticing, laying it over a flaxseed or other form of poultice, thus securing constant heat.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DISCUSSION AT THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY ON THE REFLEXES IN CASES OF INJURY TO THE SPINAL CORD—SOME NOVEL VIEWS—THE CONDITION OF THE DEEP REFLEXES AN AID TO PROGNOSIS AND TREATMENT IN CASES OF SPINAL INJURY.

London, May 17, 1890.

At the last meeting of the Medical and Chirurgical Society the subject of discussion was, "The Condition of the Reflexes in Cases of Injury to the Spinal Cord," and was introduced by a paper by Mr. Anthony Bowlby. Mr. Bowlby stated that the conditions of the reflexes in cases of complete crushing of the cord, as observed by himself, were at variance with the recognized teaching of physiologists. He gave details of eleven such cases of spinal injury. In all of these the limbs were quite flaccid, the tendon reflexes were abolished, and ankle clonus and rigidity were absent. In most of the cases the skin reflexes were also lost, but this was not the case in all, and in some patients in whom the skin reflexes were lost they returned at a later period. In cases of injury to the spinal cord without complete solution of continuity, on the other hand, he had found the reflexes increased. Mr. Bowlby urged that as in all cases of complete crushing of the cord the deep reflexes were lost, and as spinal cords so injured were incapable of repair, operative interference was only likely to be of use when the deep reflexes were not abolished, and when, therefore, it was believed that the cord was not completely severed. The author then alluded to ten other fatal cases of injury to the spinal cord, and pointed out that in none of the twenty-one fatal cases was there found on post-mortem examination any compression by displaced bone or other condition remediable by surgical interference. The conditions found justified the belief that the cord was crushed by a forward displacement of the upper of the two vertebræ involved in the injury, and that the displaced bone was usually spontaneously restored to its normal position, or else was so far replaced as to prevent any continued direct compression of the spinal cord. He concluded that it was not yet certain whether the deep reflexes were ever lost in cases of severe injury to the spinal cord short of complete crushing, and suggested that further evidence was required to make this clear.

Dr. Howard Tooth showed sections from the spinal cords of some of the cases. In one case of complete crush he was unable to demonstrate the existence of healthy fibres in the section, which was stained with carmine, and yet there was a slight return of the reflexes on one side. He agreed with Mr. Bowlby that in cases of complete crush with loss of reflexes operation could be of no use; but if any reflexes were present there might still be a little hope.

Dr. Charlton Bastian said it had been objected to Mr. Bowlby's arguments that the abolition of reflexes in his cases might have been due to shock, or to the presence of an unsuspected lumbar lesion. The latter objection, however, could not apply in the case of surgical injuries to previously healthy cords. In some of the cases, also, the first objection was invalid, for the patients lived for two weeks, or more, after the injury, and the abolition of reflexes persisted all that time. Dr. Bastian considered that these cases of abolished reflexes had little or no chance of recovery, and no good was likely to result from operation.

Mr. Warrington Howard asked whether operation was justifiable and likely to be of benefit in cases where the reflexes were present or increased. In no one of the cases related was displacement of bone found after death, and he inquired if any cases were known of in museums where fracture dislocation with partial paralysis existed, and in which there was a condition of bone displacement remediable by operation. The removal of bone pressing on the cord might relieve irritation.

Mr. Bruce Clarke referred to a case in which the spinal cord was pressed on by displaced bone and paralysis was present; after extension under chloroform and fixation, the paralysis almost entirely disappeared, and the man left the hospital some weeks afterward greatly relieved.

Dr. Angel Money thought the matter should be carefully considered before arriving at definite conclusions. If the spinal cord was quietly divided above the lumbar enlargement were the deep reflexes lost? The cases referred to had all been instances of violence or of disease, and we could not argue from them what would be the results of neat, complete, and quiet division. He thought the absence of reflexes might be explained by the assumption of the presence of a degree of chronic shock, which, so to speak, left the cord devitalized, the molecules being deranged beyond reparation.

Dr. Cagney could not harmonize Mr. Bowlby's conclusions with accepted facts. He asked when the superficial reflexes returned in cases in which all reflexes had been lost, and how far the prognosis would be modified by this.

Mr. Langley Brown said spinal injuries were common in his district, and he was sure that displacement of the bones occurred and might cause paralysis. If the spine were immobilized at once many untoward symptoms would be avoided. He quoted two cases of spinal injuries which recovered after being treated by fixing the spine. He had never seen any of the secondary symptoms of concussion follow a colliery injury; he had witnessed nothing akin to the "railway spine."

Dr. Ormerod referred to the behavior of the muscles in these cases to stimuli other than blows on the tendon; the muscles reacted more readily to a direct blow than they did in normal people, the tendon reflex being absent. In one of Dr. Bastian's cases the reaction to faradism was normal; in a case of fracture dislocation at the National Hospital for Paralysis, reaction to faradic stimuli was almost absent.

The President (Mr. Timothy Holmes) said that the physiologically novel views advanced had an important bearing on treatment. In many cases the removal of the displaced bone by operation was impossible, for the displaced fragment lay in front of the cord and could not be reached. He agreed in the advisability of immediately immobilizing the injured bones.

Mr. Bowlby then replied and said that in a considerable number of cases the superficial reflexes did not return at all; in others they did so in a day or in several weeks. He laid no stress on them either for diagnosis or for prognosis; the deep reflexes alone were of value. The spinal cord in these cases could not be devitalized or the superficial reflexes would not return. He felt sure that in a large number of these cases no good could come from operation. The position he took was that when there was complete loss of deep reflexes, that then there was probably a total transverse lesion; but that when these reflexes were present the cord was certainly not completely crushed. In some of these latter cases an operation might perhaps be useful, though in the majority of them it would be of no avail. Where the column was crushed in directly from behind operation was likely to be more favorable than in those cases produced by doubling down the head.

MEDICAL LEGISLATION IN NEW YORK STATE DURING RECENT LEGISLATIVE SESSION.

To the Editor of the Medical Record.

Sir: The Governor having completed the signing of bills it may be of interest to note what measures relating to the practice of medicine or surgery have become laws.

The Medical Examination Law.—The most important law was the one establishing three boards of medical examiners. This was introduced in the assembly by Mr. Hitt, and in the senate by Mr. Chase; and it is now chapter 507 of the laws of 1890 (*vide* p. 686). In opposition to this bill, Senator Stadler introduced a single-headed medical examiners' bill which was defeated in the Senate by a vote of nine to seventeen. A bill by Senator Laughlin proposed to amend chapter 647 of the laws of 1887 in regard to the licensing and registering of physicians and surgeons and to call that act a medical act of the State of New York. This bill did not pass, some of its features having been incorporated into chapter 507 noted above. The law of 1887 provides three classes of licensed physicians and surgeons. First, graduates from medical colleges or schools in this State; second, those who have received a degree from the regents of the University; and third, those who have been graduated from medical colleges outside of the State, to be indorsed by medical colleges in this State or by the regents of the University on the recommendation of a legally constituted board of medical examiners in this State. Senator Laughlin's bill, which did not pass, proposed an additional class of licenses to all persons who shall be, at the time when this act takes effect, lawfully engaged in such practice in this State, under license or authority conferred by its laws then in force, and lawfully registered as such practitioners pursuant to chapter 513 of the laws of 1880, and the acts amendatory thereof.

Concerning Graduates from Colleges outside the State.—Senator Ives also attempted, without success, to amend the same law of 1887 so as to change subdivision 3 of section 2, relating to graduates of colleges from without the State, and make it read as follows: All, who having been graduated from incorporated medical schools or colleges without the State as doctors of medicine, or licensed to practise physic or surgery under the laws of those foreign countries in which said degree does not confer the right so to practise, or who having received the degree of doctor of medicine from a college in this State, without having passed a preliminary examination as provided in and by chapter 468 of the laws of 1889, entitled "An act to provide for the preliminary education of medical students," and the amendments thereto, shall procure or shall have procured their diplomas from said corporations or their licenses from such countries to be indorsed by the faculty of an incorporated medical school or college within this State, or by the regents of the University on the recommendation of the legally constituted board of medical examiners of this State, provided, further, that it shall satisfactorily appear to the said faculties of said incorporated medical schools or colleges, or to the regents of the University, before making said indorsement that such non-residents or applicants having a degree or diploma from medical schools or colleges without the State, or who may be licensed as aforesaid, and whose degrees or licenses shall have been conferred on and after January 1, 1891, shall possess the same educational qualifications as are required of residents within this State under the provisions of chapter 468 of the laws of 1891, and the acts amendatory thereof; every said indorsement shall be in the form of schedule "A" or schedule "B" provided by this act; every corporation or board so indorsing shall keep a record of their indorsements and may require applicants to verify their statements under oath; any indorsement made with fraudulent intent or gross carelessness, or ignorance shall be deemed a misdemeanor, and shall subject the indorser or indorsers upon conviction thereof to a fine of $250. The schedules were to be changed according to the proposed amendment.

This section of the law of 1887 was, however, amended by a law known as chapter 500, and indorsed by Assemblyman Bush, so as to add the following at the end of the third subdivision noted above: "Provided, however, that no such indorsement as is above specified shall be made until the applicant thereof shall file with the person, officer, or body above-named as authorized to make such indorsement, a certificate, signed by the secretary of the University of the State of New York, showing that such applicant has received the degree of bachelor or master of arts, of bachelor or master of science, or of bachelor or doctor of philosophy, from a college or university duly authorized to confer the same; or that he has passed an examination conducted under the authority and in accordance with the rules of the regents of the University of the State of New York, in arithmetic, grammar, geography, spelling, American history, English composition and elementary physics; or that he possesses qualifications which the regents have considered and accepted as fully equivalent to the above-named qualifications; as such degrees and certificate are more particularly defined in an act of the legislature of the State of New York, entitled 'An act to provide for the preliminary education of medical students,' passed June 13, 1889, being chapter 468 of 1889, and as the same may be hereafter amended."

Preliminary Education of Medical Students.—Chapter 499 of the laws of 1890 was introduced by Assemblyman Bush. It amends section 1 of chapter 468 of the laws of 1889, in regard to the preliminary education of medical students, so that it shall read as follows, the omitted portions of the original law being in brackets, and the portions added by the proposed amendment being in italics: Before the regents of the University of the State of New York or the trustees of any medical school or college within this State shall confer the degree of doctor of medicine on any person [who has not received a baccalaureate degree in course from a college or university duly authorized to confer the same] they shall require him to file with the secretary or recording officer of their university or college a certificate *signed by the secretary of the University of the State of New York*, showing *either* that *he possesses the degree of bachelor or master of arts, of bachelor or master of science, or of bachelor or doctor of philosophy received by him from a college or university duly authorized to confer the same or that, during or* prior to [entering upon the prescribed three years study of medicine] *the first year of his medical study within this State*, he passed an examination conducted under the authority and in accordance with the rules of the regents of the University of the State of New York, in arithmetic, grammar, geography, orthography, American history, English composition, and the elements of natural philosophy; or in their substantial equivalents approved by the said regents, *or, that he possessed qualifications which the regents considered and accepted as fully equivalent to the above-named qualifications*, [and such certificate shall be signed by the secretary of the regents and countersigned by the principal or commissioner conducting said examination].

Physicians keeping Drug Stores.—Attempts were made to amend the pharmacy act, chapter 361 of the laws of 1884, so that any person who is legally authorized to practise medicine may carry on a drug-store; also allowing retail druggists or practising pharmacists of five years' experience to receive licenses without examination. Section 11 of the law was amended, by chapter 100 of the laws of 1890, so as to make the penalties for violation of the law of 1884 a fine of not less than $25 nor more than $50, or imprisonment not to exceed six months; and a provision is made for the disposition of such fines. An unsuccessful attempt was made to amend the pharmacy law of 1884 so that country doctors may keep drug stores without a license.

A bill never reached the Governor allowing medical schools to have the same privileges that medical colleges now have in regard to obtaining bodies from penal institutions not claimed.

The Veterinary Surgeon Act of 1889 was amended by chapter 419 of 1890 so as to give until January 1, 1891 for registering those veterinary surgeons who have practised for three years without a diploma. A general law was enacted, chapter 289 of the laws of 1890, authorizing

any nine or more persons who are graduates from any legally chartered veterinary college or university, and who hold diplomas or certificates as such, citizens of the United States and of this State, who desire to form themselves into an association for the purpose of improving the methods of treating diseases and injuries of all domestic animals, to elevate the standard of integrity, honor, and courtesy in the veterinary profession, and to cherish the spirit of brotherhood among the members thereof, to sign and acknowledge before any officer authorized to take the acknowledgments of deeds in this State, and file in the office of the Secretary of State, and a duplicate thereof in the office of the clerk of the county in which such association is organized, a certificate, in writing, to be approved by a justice of the Supreme Court, in which shall be stated the name of said association, its object, the officers of the same and the names of its officers for the first year of its existence, and the name of the county or district in and for which it is formed. Such societies or associations can hold property not to exceed an annual income of $20,000. This new general law superseded a special law incorporating the New York State Veterinary Medical Society with certain veterinary surgeons of Central New York as the incorporators. It also superseded a fruitless attempt to create a State board of veterinary examiners to be appointed by the Governor, consisting of six veterinary surgeons, of which two should be the president and secretary of the New York State Veterinary Medical Society. X.

Albany, N. Y., June 10, 1890.

CONCERNING THE STANDARDIZATION OF DRUGS.

To the Editor of the Medical Record.

Sir: A wholesale dealer in pharmaceutical products some months ago advocated the principle that, as all galenical preparations depend for their therapeutic value upon certain alkaloidal or other constituents, the amount of such active elements should be made to conform to some determined standard. In other words, the preparations of drugs used as medicines should be standardized. This, it was claimed, is essential to accurate knowledge on the part of the physician of the amount of each medicinal agent to be used in a given case.

This is not a new subject. It has been studied by pharmaceutical chemists for many years; is still under consideration, and doubtless will be for years to come. Every pharmacist desires to see it accomplished, but as yet nobody—not excepting the wholesale dealer who started the present agitation of the question—knows enough about the chemistry of plants to be able to say how it can be done. There are very few drugs of which we can certainly specify the constituents in which their therapeutic activity resides; and as for the exact proportion in which these constituents should exist in the crude drug, we know probably less. The reason for this is that no two specimens of the crude drug are alike in this regard, and that we have no reliable means for extracting these constituents for examination which will insure us that the product represents all of their constituents contained by the drug; nor have we the tests which will differentiate between the various constituents of the same plant, some of which may be therapeutically active while others are inert, or have a different action. Moreover, it is believed that in plants having several constituents their relative proportions vary in nearly every case and depend upon the conditions under which the plant grows.

The so-called active principles of drugs do not exist in the plants in the forms with which we are familiar, the latter being artificial rather than natural products in many cases. There are instances in which the therapeutic action of an artificially extracted principle is quite different from that of the crude drug or its watery or alcoholic solutions.

This is a bare outline of only a few of the problems involved in the question of standardization, and I refer you for many details to a recent paper by Professor Maisch, of Philadelphia.

Very truly yours,

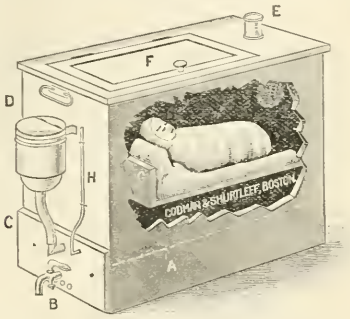
F. A. Castle, M.D.

June 10, 1890.

New Instruments.

LA COUVEUSE, FOR PRESERVING THE LIFE OF FEEBLE AND PREMATURELY BORN INFANTS.

Apparatuses for this purpose have been successfully used in Europe for a number of years, and the accompanying illustration represents one, modelled after the most perfect form, as exhibited at the Paris Exhibition in 1889.



It consists of a wooden case, 28 inches long, 23 inches high, and 17 inches wide, having a glass door (F) and ventilating valve (E) on the top, a tunnel (D), with cover, gauge glass (H), faucet (B), and ventilating openings (f) on the front, and a larger ventilator on the back (not shown). Within and at the bottom is a copper reservoir of suitable capacity (shown in dotted outline A) connected with the tunnel, also with the faucet (B). Over the reservoir is a frame with a thermostat attached for regulating the internal temperature. Above is the bed for the child, with the mattress, etc. A sponge-cup and sponge, for moistening the air, and a thermometer are conveniently placed.

When the apparatus is to be used the reservoir should first be filled with boiling water three or four hours in advance to warm it thoroughly; when the internal temperature reaches 85° to 88° F. the infant may be placed within on the bed. To maintain the temperature it is generally sufficient to add three quarts of boiling water every two or three hours, at the same time drawing off an equal quantity from the reservoir by means of the faucet, the gauge-glass (H) showing when the reservoir is filled.

The warm air rising from the reservoir escapes through the valve (E) in which turns a little helix; should the temperature within rise too high, the thermostat opens the ventilator at the back and admits the outer air until it is reduced, when it closes again. It is considered well to maintain the temperature at 86° F.

Care should be taken not to place the apparatus in a draft. The infant may be left in the couveuse fifteen days, three weeks, or even a month; then, when it has acquired sufficient vigor, it may be gradually accustomed to the outside air, first removing it into a warm room for an hour or two at a time. It is well, even then, to continue the use of the apparatus during the night for some time longer.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 8 to June 14, 1890.

STERNBERG, GEORGE M., Major and Surgeon. By direction of the Acting Secretary of War, will, in addition to his present duties, perform the duties of the post surgeon at Fort McHenry, Md., during the absence of that officer on leave.

GARDINER, JOHN DE B. W., Captain and Assistant Surgeon. By direction of the Acting Secretary of War, having been found incapacitated for active service by an army retiring board, will proceed to his home. Par. 12, S. O. 135, A. G. O., Washington, D. C., June 10, 1890.

CRAMPTON, L. W., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect the 15th instant. Par. 5, S. O. 75, Department of the Missouri, St. Louis, Mo., June 9, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending June 14, 1890.

SIMONS, M. H., Surgeon. Ordered to the Enterprise.

BEVER, HENRI G., Passed Assistant Surgeon. Ordered on duty to the Yantic.

SIMONS, MANLEY H., Surgeon. Detached from Widows' Island Hospital, and waiting orders.

HAWKE, J. A., Surgeon. Ordered to Widows' Island Hospital, and attending officers of Navy and Marine Corps at Portsmouth, N. H.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 14, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	12	2
Scarlet fever	63	4
Cerebro-spinal meningitis	0	0
Measles	347	25
Diphtheria	76	24
Small-pox	0	0
Varicella	7	0
Pertussis	6	0

Medical Trust. — Dr. J. V. Kendall, Baldwinsville, N. Y., writes: "That 'Medical Trust,' on p. 563 of the MEDICAL RECORD, goes to show what is often said, that 'history repeats itself,' and is, as there remarked, 'a very old scheme' rejuvenated. I have often heard my father speak of the *usual custom* in Massachusetts, when he was young [he was born in 1773] of families making an annual agreement with their physician for the necessary medical and surgical attention, in accordance to the size and circumstances of families, by the year."

A Correction.—Dr. G. W. McCaskey, of Fort Wayne, Ind., writes: "In my article on 'Disinfection during and after the Acute Infectious Diseases,' in the MEDICAL RECORD of March 1st, reference was made to the excellent work done by the Louisiana State Board of Health. The President of the Board, who had furnished me valuable information, was given as Dr. Williamson, whereas it should have been Dr. C. P. Wilkinson. Will you kindly mention the error, as it does not do justice to Dr. Wilkinson."

Leprosy in India.—Dr. Edward P. Thwing, of Brooklyn, who has been making, the past year, an extended tour in the East, gives in a concise style some observations on leprosy. "To study leprosy in its endemic seats has been my privilege in Norway, China, and India. Leper hospitals and communities at Bergen, Canton, and Colombo have presented striking clinical features of this malady, to the revival of which Sir Morell Mackenzie has recently drawn public attention. The two points around which special interest centres are its relation to syphilis and its alleged contagiousness. In India it is estimated there are about a quarter of a million lepers. Bengal, with about the same population as the United States, has 54,000 lepers, and the single city of Calcutta 1,200. The Colombo community, visited a few weeks since, during ten days' stay at Ceylon, has more than a century's history. The monogram of the daughter of a colonial governor, herself a leper, founder of the hospital, was shown me. It bore the date 1708. Early records are wanting, but W. A. Kynsey, M.D., now in charge, is an intelligent observer and careful compiler of all facts bearing on the characteristics of the disease. His community of 208 lepers has an area of 16 acres, high, wooded, yet airy and sunny, on the northern side of the Kelani River, an hour's ride from the city. There are 14 wards and 14 servants. Everything is scrupulously neat. The floors of the spacious brick buildings are cement, with ground as well as roof ventilation; Venetian doors and other oriental appointments, as dry earth latrines. The sexes are separated. Two chapels are provided, one for Protestant natives, and one for Romanists, and also a school for children, besides Buddhist instruction for those who choose it. The population of the western provinces of the island, from which this hospital is supplied, numbers 897,329. Two-thirds of the cases are of the anæsthetic type. The scant attire of Tamil and Singhalese gave excellent opportunity for inspection in this, the best clinical lecture on dermatoses ever enjoyed. The patients are of all ages and about equally divided as to sex. They did credit to the excellent hygienic and dietetic system of treatment followed, and were lounging about the wards or on the veranda, breathing the perfume of 'Ceylon's spicy isle,' apparently contented. The disease is ordinarily painless, but a patient is always exposed to intercurrent maladies—diarrhœa, fevers, ulceration of the colon—and to acute attacks of leprosy, when eruptions of a livid hue appear on the body and limbs, behaving like boils. 'Pruritus is sometimes so very painful,' says Dr. Enders, of Molakai, 'sufferers in their agony will tear out pieces of flesh with their nails.' I first saw a man sixty years of age, the oldest patient, twenty-five years a leper. His children are apparently untainted. It is not safe to predicate immunity so long as life lasts. A Borneo boy, in sport, pricked a leper on an insensate area of the body, and then himself with the same knife. In nineteen years he developed leprosy. The period of incubation varies. This patriarch of the asylum, to whom I was first introduced, has facial paralysis and ataxic gait. The lower jaw drops and his saliva oozes, reddened with betel-nut which he chews, making a hideous appearance. He stretched out both hands, stiff and distorted. The epidermis is peeling off. Cellular degeneration and other complications mark the retrograde metamorphosis of the tissues. Lardaceous deposits and fibrous hypertrophy attend the onward course of the disease. The central system, in this case, does not yet share the disability of the peripheral. He takes an interest in everything, and seems to suffer no acute pain. The next man was younger, in the prodromal stage, without the macular and other characteristic pigmentations which attend chronic conditions. In leprosy, as in syphilis and other chromatogenous diseases, the varying condition of the blood-pigments as a whole, or in their distribution, records itself on the skin. With interrupted nutrition and neuritis, white hairs appear in leucodermic patches, or melanoderma, as in Addison's disease, and following syphilitic roscola. I photo-

graphed a leper in Benares, illustrating color changes, as well as marked alopecia. Another feature, familiar to specialists, was shown in a third and a fourth case, the adherence of the eruptions to the nerve-tracts, the median and ulnar nerves particularly. Dr. Kynsey expressed no opinion of his own as to the kinship of leprosy and syphilis, but wished me to note the eversion of lip and nose, nodules on the chin, and suspicious epithelial appearances, with absorption of septum in some patients. Arabian authors quoted by Vidal classed the two together. He thinks that the use of mercury for both, four hundred years ago, is a proof of kinship, though each has now been so specialized. 'The part that lepra plays in the production of these (syphilides) has been reduced to so small a compass that it would seem no longer to exist.' Erasmus Wilson puts lepra and psoriasis in the same category, and says that syphilitic leprosy and syphilitic psoriasis are the product of the 'almost universal poison, syphilis.' Dr. Van Holsh, of Guiana, Dr. Enders and others, of Honolulu, believe that 'leprosy is the offspring of syphilis,' and their experience is extended. Among Colombo lepers, I saw one peculiar case where elephantiasis was added to leprosy. The left leg was of huge size. Interstitial absorption from the distal extremities of the toes had taken place. In others the absence of hair from the eyebrows, the deadness of finger-nails, and chronic œdema of the legs were observed; induration of the tissues of elbow and knee, tuberculous scars on breast, back, and abdomen, as if cicatrized, raised above the skin, and rough, beaded, ragged helix, frequent bruises or burns of portions of the body which have lost sensation, and from these festering sores. Some showed a decay at the proximal end of a toe or finger with spontaneous amputation. In Bombay one or two cases were seen where this doubtless has been the course. Vision is lost toward the end in some cases, and in two, the past two years, asphyxia occurred, when the velum of the larynx was involved. Sex did not differentiate diagnostic signs. Uterine functions are not interrupted, unless with climatic or other complications. The face of one woman showed ridges like branding burns, while the usual turgid and nodular appearance of the alæ nasi was marked. Erythematous affections of the plantar surfaces of the feet and palmar surfaces of the hands; also furunculoid eruptions as in syphilis, angry, obstinate, and painful; glandular tenderness and rheumatic pains; exfoliation of bone with serpiginous patches, often gyrate or necklace like, mark the progress of disease. Of 600 cases treated, Dr. Kynsey had obtained no evidence of contagion, yet he acts on the assumption that leprosy is contagious. No mercury is used. Food and sanitary measures are first in importance. Salicylic acid and tonics, carbolic oil, and inunctions of gurjan and chaulmoogra oil have yielded good results. Segregation is insisted upon. In the community I visited at Bergen the same general treatment prevails. There has been a decrease of forty-five per cent. in twenty-five years in Norway, since the policy of isolation has been insisted on by government, in face of the ill-considered deliverance of English physicians in 1867."

Kentucky State Medical Society.—The thirty-first annual session of the Kentucky State Medical Society was held at Henderson, Ky., May 14, 15, 17, 1890. The President, Dr. J. A. Ouchterlony, of Louisville, was in the chair, and the Secretary, Dr. Steele Bailey, of Stanford, was at the desk. The Hon. John L. Dorsey delivered the address of welcome. Dr. A. Dixon read a report on the progress in surgery. The President read his address on the early practice of medicine in Kentucky. Dr. G. Frank Lydston, of Chicago, made an address, "Materialism *vs.* Sentiment, in the Study of the Causes and Correction of Crime." The following officers were elected: *President*—Dr. George W. Beeler, of Clintonton; *Senior Vice-President*—Dr. J. M. Poyntz, of Madison; *Junior Vice-President*—Dr. Ap Morgan Vance, Louisville; *Permanent Secretary*—Dr. Steele Bailey, of Stanford; *Assistant Secretary*—Dr. J. Y. Oldham, of Lexington; *Treasurer*—Dr. J. B. Kennard, of Lancaster; *Librarian*—Dr. T. B. Greenley, of West Point. The next place of meeting is Lexington, and Dr. David Barrows, of that city, chairman of the committee of arrangements. Delegates were chosen to the National and the International Conventions. At the banquet at the Barrett House, toasts were responded to as follows: "Kentucky State Medical Society," Dr. John A. Ouchterlony, of Louisville. "State Board of Health in Prevention of Disease," Dr. Pinkney Thompson, of Pembroke. "Art in Medicine," Dr. J. M. Matthews, of Louisville. "Philanthropy in Medicine," Dr. G. Frank Lydston, of Chicago. "The Ladies," Dr. L. S. McMurtry, of Louisville. "Medical Press," Dr. Dudley S. Reynolds, of Louisville. A ball was given at the Armory in honor of the doctors, and was very enjoyable. A profusion of Kentucky feminine loveliness added its charms to the occasion. The address of the President of the Kentucky State Medical Society was made by Dr. J. A. Ouchterlony, of Louisville. He took for his subject "The Pioneer Medical Men and Times in Kentucky." The noble adventurer who first in 1747 plunged bravely into that pathless wilderness known as "the dark and bloody ground," was a medical man, Dr. Thomas Walker, who had married a cousin of George Washington. The first practising physician in Kentucky was Dr. George Hartt, at Harrodsburgh. The first surgical operation was done by Colonel James Smith, and was done on himself, in the wilderness, and with no one but a mulatto boy with him. Colonel Smith was not a medical man. Mrs. Frances Coomes, the wife of William Coomes, was the first lady physician. She was physician, surgeon, and obstetrician, and renowned in all. She was, according to tradition, the first to make bread or salt in the State. Among her posterity is a member of this society, Dr. M. F. Coomes, of Louisville. Dr. H. McMurtrie wrote, in 1819, the first history of Louisville, and discussed geological and philanthropic matters. He also has a descendant in the person of Dr. L. S. McMurtry, an ex-president of this Society. The first medical book was published by Dr. Thomas W. Ruble, in 1810. The first medical society in the State was established in Louisville in 1819. A doctor's bill dating from 1780 shows that Dr. Harft charged Mr. Clews $240 for eight doses of calomel, and $240 for four blistering plasters. Among the early operations are two of excision of the pancreas, in 1816. Biographical sketches were given of Dr. Frederick Ridgley, Dr. John Milton Harney, Dr. Walter Brashear, and Dr. Theobald. Dr. Arch Dixon, of Henderson, read a report on the progress in surgery. He made a comparison of the surgery of past years with that of to day, and laid special emphasis on the use of antisepsis in the treatment of wounds. Laparotomy, intestinal and brain surgery, and the radical cure of hernia were carefully discussed. "Gunshot Injury of the Spine, with Paralysis; Death after Four Years," was the subject by Dr. M. E. Alderson, of Ressellville. He presented the specimen showing the ball projecting into the spinal canal from the vertebræ where it was embedded. "Two Cases of Ectopic Gestation, cured by Abdominal Section," was the subject of a report by Dr. A. C. Bernays, of St. Louis. The first case reported was the first case of early operation for ectopic gestation successfully done in the State of Missouri. The examination of the specimen showed an exquisite hæmato-salpinx due to a tubal pregnancy, the blood having escaped from the villi of the chorion at the point where the placenta was developing. The tube is distended so that it is two and a half inches in its largest diameter, and three and a half inches long. The surface of the tube is covered by shred-like adhesions, although in some places the peritoneal covering is seen in a normal condition. The muscular coat of the tube is much hypertrophied, averaging an eighth of an inch in thickness. The embryo was not found, but traces of it were seen in the shape of translucent gelatinous tissue, lying within

the clot, which filled the tube. The second case was found in syncope, after a ruptured ectopic pregnancy. This is a case where the patient's life was undoubtedly saved by prompt surgical interference. The pregnancy must have been between seven and nine weeks' duration. In many respects the case was an instructive one, and the doctor thinks it the first case of ruptured interstitial gestation which was saved by abdominal section.

Society of the Alumni of Charity Hospital.—At the meeting of the Society of the Alumni of Charity Hospital, held May 13th, Dr. H. H. Hagan presented a case of multiple angiomata in a child of two years. There were about thirty of the tumors, situated on the head, face, body, and extremities. Dr. Clement Cleveland showed an interesting specimen—a very much thickened Fallopian tube, removed from a patient suffering from chronic pyosalpinx opening into the colon. The tube was so much thickened as to be mistaken for the ovary. Dr. W. L. Carr read a paper on "Laryngismus Stridulus," which gave rise to an animated discussion.

A Double Monster.—There is now on exhibition a double monster, known as the Tocci Brothers. The children are thirteen years of age, and were born of an Italian woman living in humble circumstances. The body as far as the shoulders is single, but is double above. The stomach is common to the two children, and if one eats heartily the other has no desire for food, yet it is said that the two are very unlike in their appetites and tastes, one being fond of sweets, while the other cares only for substantials. The genital organs are male, but the face of one of the children is very feminine in its appearance.

The Action of the Positive Pole of the Constant Current upon Pathogenic Bacteria.—In a paper read before the Academy of Sciences of Paris, a report of which we have received through the courtesy of Dr. Horatio R. Bigelow, Drs. Apostoli and Laguerrière reported the results of a series of experiments made by them to determine the action of the constant current upon microbes. Their previous experiments had led them to conclude that, 1. The action of the constant galvanic current upon cultures is in indirect proportion to its strength, measured in milliampères. 2. Other things being equal, for the same intensity the question of the duration of the application is of no value, the intensity of the current being the chief factor. 3. A current of 300 milliampères or more, applied for five minutes, always kills the bacteria of charbon. Cultivations made with the culture so treated remain sterile. 4. A current of 200 to 250 milliampères, applied during five minutes, does not always destroy the virulence; some of the snakes inoculated with such cultures died, but more slowly than those inoculated with cultures which had not been exposed to the action of electricity. 5. A current of 100 milliampères or less, even after an application for thirty minutes, does not destroy the virulence; it produces an attenuation which increases with the force of the current. Since the experiments upon which these conclusions were based were made, the authors have found that these effects are independent of the thermic action which accompanies electrolysis. They have since then also studied the individual action of each pole, and have formulated these supplementary conclusions: 1. By suppressing the calorific effects of the current it is possible to obtain destruction and attenuation of the vitality of the germs. 2. The positive pole alone kills or attenuates pathogenic organisms, over which interpolar action of that or the negative pole has no control. 3. The antiseptic action of the positive pole (in the midst of a culture entirely separated from the negative pole) takes places with even smaller doses than when the two poles are close to each other. The positive pole does not kill with 50 milliampères during a period of from five to thirty minutes, but the attenuation of the virulence of a culture so treated increases progressively. The general conclusion drawn from these experiments is that the continuous current of the usual strength used in medicine (50 to 300 milliampères) has no action upon cultures in a homogeneous medium, and that the peculiar action of the positive pole is due to the disengagement of acids and oxygen.

Hysteria following Typhoid Fever.—Professor Grasset, of Montpellier, has recently recorded a well-marked instance of this condition occurring in a girl, twenty three years of age, who until then had shown no sign of hysteria. She had passed through a mild attack of typhoid fever and was convalescent, and allowed to get up daily, when she was suddenly attacked with complete paraplegia. This was considered to be "hysterical" in character because of the coexistence of the following symptoms: A number of persistent stigmata, incomplete left hemianæsthesia, absence of the pharyngeal reflex, and contraction of both fields of vision. A month later complete aphonia was developed. The diagnosis of hysteria was verified a few days later by the patient suddenly recovering her voice and the power over her legs, so that in a few days she was able to leave the hospital in perfect health. A similar case is quoted from Trousseau. A patient of his, twelve years of age, was attacked with paraplegia during convalescence from typhoid fever, and all treatment was without benefit, until one day she was accidentally locked in her bedroom. When the nurse returned she found the patient standing at the door, having walked without much difficulty from her bed to try to open it. In neither of these cases had there previously been any tendency to hysteria.—*The Lancet*, April 26, 1890.

A Case of Sporadic Cretinism.—A case of this interesting disease is described under the name of "idiotic myxœdemateuse," in the current number of the *Archives ae Neurologie*, by M. Bourneville. The patient, who is now twenty five years of age, is the youngest of five. None of the others are cretins, but several have died of tuberculosis. The parents were not related, and the mother was quite healthy, but the father died of phthisis. Until three years of age the patient is said to have talked, walked, and played just like other children; but at this time he stopped growing and became fat and puffy. On his admission to the Bicêtre his height was only thirty-five inches and a half, and his weight fifty-four pounds. His head was bossy, with projecting occipital region, and his anterior fontanelle was not quite closed. His forehead was low, narrow, and compressed laterally. There was the usual thickening of the eyelids, so that they could scarcely be raised at all. The teeth were irregular in position, and the temporary canines and premolars had not been shed either in the upper or lower jaw. There were the usual masses of fat seen on each side of the neck, and no thyroid gland could be detected. There was general thickening of the skin, and very great development of adipose tissue in front of the abdomen and in the gluteal regions. The genital organs were those of a young boy; there was no tendency to masturbation. The patient was able to feed himself, although slowly. He was unable to read and write, and his language was confined to a few monosyllables. If he used a longer word, he pronounced only the last syllable. He was fond of sewing, which he did fairly well, but he was quite unable to dress or undress himself. He was fond of smoking, and apparently affectionate, but usually appeared indifferent to surrounding circumstances. The case is of interest in the late development of the symptoms. In a case shown at the Clinical Society by Dr. Abercrombie, myxœdema was set up at the early age of eight, after some obscure acute illness, which he suggested might possibly have been an acute inflammation of the thyroid gland, leading to its atrophy. The information as to the onset in this case was not complete, as the parents could not be questioned, but it is just possible that this may have had some similar origin.—*The Lancet*, April 26, 1890.

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Original Articles.

A THEORETICAL AND PRACTICAL DEMONSTRATION OF THE ACTION AND TENSION OF THE TENDO-ACHILLIS IN SUPPORTING THE BODY ON TIPTOE.[1]

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Several years ago my attention was drawn to this subject by a lecture delivered by the late Dr. Sabine, on the action of the tendo-Achillis, in which the tendon was represented as acting on the foot in the simple manner in which the power acts in a lever of the second class, thus sustaining the weight of the body, the power being represented as a weight and pulley, the cord passing over a wheel as seen in Fig. 1.

In this demonstration the reaction of the power W (W representing the tension on the tendo-Achillis) is taken up by the pulley P. This is not so in sustaining the body on tiptoe, in which latter case the reaction is down through the tibia CA. I have since noticed, in the writings of authors who treat of the action of muscles, that much the same form of demonstration is applied.

My attention was again called to this subject at the January meeting of the Orthopædic Section, New York Academy of Medicine, by a criticism made to Willett's operation for shortening the tendo-Achillis in infantile

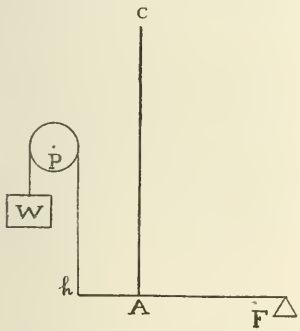

Fig. 1.—C, Calf, or point of attachment of muscles to tibia; F, Fulcrum (ball of foot); h, Heel (attachment of tendo-Achillis); W, Weight (represents power in calf muscles); A, Ankle; P, Pulley.

paralysis; the objection being that the tendo-Achillis had to sustain a number of times the weight of the body, and in its weakened condition the tendon could not sustain this tension. The mechanism, in the demonstration, was regarded simply as a lever of the second class.

Instead of the foot and ankle being a simple lever of the second class, thus following its simple laws, it partakes more of the quality of a mechanism in which there is considerable loss of power, due to the force acting at a disadvantage, *i.e.*, the force acting in one direction being opposed by its own reaction as transmitted in a slightly different plane, plus the weight of the body.

In raising or supporting the body on tiptoe at any given angle, the moments of the forces raising the heel h, or turning the foot hF around the fulcrum F in an upward direction, must be equal to the moments of the forces bearing down through the tibia CA and tending to turn the foot hF in the opposite or downward direction around the fulcrum F. The moment of the force tending to raise the heel is T, the tension on the tendo-Achillis multiplied

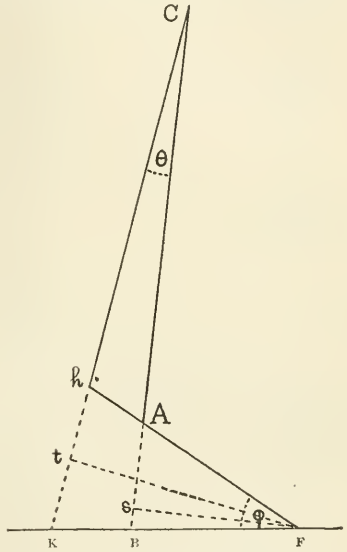

Fig. 2.—W, Weight of body; T, tension on tendo-Achillis; C, mean point of attachment of calf muscles to tibia; A, ankle; F, fulcrum (ball of foot); h, attachment of tendo-Achillis; Ft, perpendicular to direction of tendo-Achillis; SF, perpendicular to direction of tibia; θ, angle which tendo-Achillis makes with tibia; Φ, angle which sole of foot makes with ground; ΦO, at instant when foot leaves ground; KF, surface of ground.

by Ft, the perpendicular drawn from the ball of the foot to the line of direction of the tendo-Achillis. The moments of the forces bearing downward through the tibia are:

1. The reaction of T, the tension of the tendo-Achillis as transmitted to the foot through the tibia. This reaction (R) is equal to T cos θ; and the moment of this reaction R is T cos θ, multiplied by SF, the perpendicular drawn from the ball of the foot to the line of direction of the tibia.

2. The weight of the body (W) bearing downward through the tibia; and its moment is W multiplied by AF cos ϕ.

Now we have seen that moments in the different directions must be equal; therefore we have the equation.

$$T \times Ft = T \cos \theta \times SF + AF \cos \phi \times W$$
$$T \times Ft - T \cos \theta \times SF = W \times AF \cos \phi$$
$$T (Ft - SF \cos \theta) = W \times AF \cos \phi$$
$$T = W \frac{AF \cos \phi}{Ft - SF \cos \theta}$$

To determine T from this formula we must calculate by trigonometry the values of Ft, Fs, θ, and ϕ; and to do this we must know accurately the values of hF, AF, CA, and the angle CAF, the angle formed between the tibia and the foot, and the angle CBF, that between the tibia and the ground. The latter quantities (hF, AF, CA, etc.)

[1] Read before the Orthopædic Section of the New York Academy of Medicine, March 21, 1890.

I determined by measurements on the several members of the staff of the Hospital for Ruptured and Crippled, and the former quantities (Ft, FS, θ, and ϕ) by trigonometrical calculations. The following is the result for different positions of the foot:

		Angle CAF.	Angle θ.	Angle Φ.	sF (inches).	tF (inches).	T.
Dr. Logue.							
CA=16 in. AF=5¼ in. Ah=2¼ in.	Foot about horizontal.	82°	7° 16′	0°	5.20	7.217	2 542W
	Extreme tiptoe...	165°	2° 25′	75°	1.359	2.245	1 53W.
Dr. Fitzhugh.							
CA=15 in. AF=4 in. Ah=2¼ in.	Foot about horizontal.	82°	8° 17′	0°	3.961	6.200	1.925W.
	Extreme tiptoe....	160°	3° 26′	70°	1.368	2.485	1.221W.
Dr. Wirt.							
CA=16 in. AF=4¾ in. Ah=2⅜ in.	Foot about horizontal.	80°	8° 31′	0°	4.677	6.874	2.112W.
	Extreme tiptoe....	153°	4° 43	63°	2.156	3.811	1.30W.
Dr. Depass.							
CA=17 in. AF=5 in. Ah=2½ in.	Foot about horizontal.	83°	8° 12′	0°	4.965	7.25	2.236W.
	Extreme tiptoe....	165°	2° 55′	75°	1.31	2.21	1.434W.
Average.							
CA=16 in. AF=4¾ in. Ah=2⅞ in.	Foot about horizontal.	82°	8° 11′	0°	4.701	6.835	2.20W.
	Extreme tiptoe....	161°	3° 22′	71°	1.548	2.688	1.37W.

The values of T, the tension on the tendo-Achillis given in this table, were found by substituting values of SF, tF, AF, θ, and ϕ, in the formula $T = W \frac{AF \cos \phi}{Ft - SF \cos \theta}$.

We see by the table that the average value of T when the foot is just leaving the ground is 2.2W, and in extreme tiptoe T = 1.37 W. Also, that the higher the foot is raised on tiptoe, the less is the tension on the tendon. Nevertheless, it is not easier to stand in this position than in a less elevated one; for, the more a muscle is contracted, *i.e.*, the nearer the origin and insertion of a muscle are brought together, the less powerful is the muscle. On examining this formula, we see that when $\phi = 90°$ then $\cos \phi = 0$, therefore T = O. That is, when the foot is held vertically on tiptoe, the tension on the tendo-Achillis is O. This, we see, would be in accordance with the facts. But this is a theoretical position, as one cannot ordinarily balance one's self in that position.

Dr. Judson exhibited, at the March meeting of the Orthopædic Section, New York Academy of Medicine, a mechanical contrivance so arranged that a horizontal bar represented the foot, a vertical bar the tibia, and a spring balance scales attached to the upper end of the tibial bar and the heel end of the horizontal bar represented the calf muscles forming the tendo-Achillis, and also indicated the tension brought to bear upon it. A bag of shot attached to the upper end of the vertical bar represented the weight of the body. The vertical bar had a hinge motion upon the horizontal bar, and could be adjusted at different distances between the heel and toe end. By an attachment to upper end of vertical bar the centre of gravity could be so shifted that the apparatus would balance with the foot-piece at different angles to the ground. When the apparatus was balanced on the toe end (having been so arranged that the foot-piece would remain about horizontal), and the vertical bar was hinged at twice the distance from the toe end as from the heel, *i.e.*, the same relation the tibia bears to the ball of foot and the heel, the spring balance registered 2+, or a very little more than two times the weight of the bag of shot, which agrees exactly with my calculations as given in the tables. When the apparatus was balanced with the foot-piece at different angles, the scales registered values of T ranging closely to those given in the table.

But the above values of T are on the supposition that the tendo-Achillis has the whole weight of the body to lift.

Henry Morris, in his "Anatomy of Joints" (p. 409), gives the following muscles as the elevators of the heel, viz., muscles attached to tendo-Achillis, tibialis posticus, flexor longus pollicis, flexor communis digitorum, and peroneus longus. The latter four muscles are together, in size or quantity of muscle, about $\frac{2}{3}$ that of the muscles forming the tendo-Achillis, and their contractile power is about in this proportion.

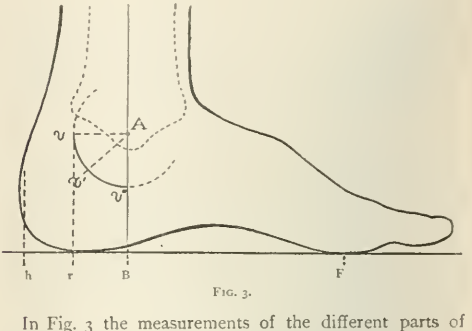

FIG. 3.

In Fig. 3 the measurements of the different parts of the foot are the average as calculated in the tables:

BF = $4\frac{3}{4}$ in. Br = Av = $1\frac{1}{2}$ in. Bh = $2\frac{3}{8}$ in. hr = $\frac{7}{8}$ in. qAB is the axis of the tibia and passes through A, the axis of flexion at the ankle. The dotted lines represent the contour of the tibia. The tendo-Achillis while relaxed arches forward, due to the elasticity of the fascia and skin; but when made tense, as in supporting the weight of the body, it passes in nearly a straight line to the muscles of the calf.

The four deeper muscles named above, viz., tibialis posticus, flexor longus pollicis, flexor communis digitorum, and peroneus longus pass behind the malleoli, around the astragalus and os calcis, along the arc v v' v'', and are attached to bones of the anterior and middle part of the foot. In their mechanical effect to lift the heel they act as a cord passing around a wheel. With A as an axis they act on a radius Av of $1\frac{1}{2}$ inch. Or considering F, the fulcrum, as the fixed point, the muscles act on the radius Fr = $6\frac{1}{4}$ inches (= $4\frac{3}{4} + 1\frac{1}{2}$).

In order to have equilibrium established we must have, as in the case of the tendo-Achillis, the forces in the different directions around F equal. (The reaction of T as felt at A is so nearly equal to T in this case that it may be called T.) Therefore:

$$T \times Fr = (T + W) \times FB; \quad T = W \frac{FB}{Fr - FB}$$

$$= W \frac{4.75}{1.5} = 3.1W.$$

For every unit of weight lifted by this group of muscles 3.1 units of power are required, while for the tendo Achillis only 2.2 units of power are required per unit of weight.

To apportion off the work between the two sets of muscles so that each shall do its proportional amount, requires that it be divided in the ratio of the amount of muscle in each group, modified by the effective power of that group.

Let X = proportion of body weight sustained by tendo-Achillis.

1 − X = proportion of body weight sustained by other posterior muscles.

Then

$$X : 1 - X :: \tfrac{2}{3} \times \tfrac{1}{2.2} : \tfrac{2}{3} \times \tfrac{1}{3.1}.$$

Solving this equation we have $X = \frac{1}{10}$. That is, the tendo-Achillis is only required to lift $\frac{1}{10}$ the weight of the body, the other $\frac{9}{10}$ being sustained by the deep group of posterior muscles.

The tension (T) on the tendo-Achillis would be .7 W × 2.2 = 1.54 W.

Therefore the tension on the tendon is 1½ time the weight of the body when the foot is just leaving the horizontal position, and rapidly diminishes as the foot is raised into extreme tiptoe, being only ½ the weight of the body in the latter position, when the deep muscles are considered. (Foot raised to 161°.)

THE TREATMENT FOR THE RADICAL CURE OF POLYPI OF THE NOSE.

By E. HARRISON GRIFFIN, M.D.,

ATTENDING SURGEON OF THROAT AND NOSE DEPARTMENT OF BELLEVUE HOSPITAL OUT-DOOR POOR, NEW YORK.

In operating for the removal of polypi of the nose, we have the choice of three different methods. First, injecting each tumor with some irritating fluid, and allowing the growth to slough; second, by the forceps; and third, by the snare. The first method is liable to be tried on account of its simplicity, but it will soon be abandoned, as it takes weeks to destroy one of these growths by this method of procedure.

This operation is attended with great pain, and if there are a number of polypi the time taken up in the operation is considerable, and the after-result is not satisfactory.

This leaves two remaining methods, the forceps and the snare.

The only reason I can see for the employment of the forceps is that it can be used by anyone, while the snare requires a certain amount of dexterity that takes a little time to acquire. In operating with the forceps we are liable, at the first introduction of the instrument into the nasal cavity, to wound and tear the membrane; the hemorrhage that follows will so obscure the polypi that further operation will be conducted entirely in the dark. We cannot penetrate to the pedicle of the growth as readily as with the snare. The forceps takes a polypus out in sections, while the snare can remove the whole growth, with its pedicle, in the majority of cases, especially if it is a virgin case upon which we are operating.

I have enumerated the three methods of operating, as the manner in which the polypus is removed is an important factor in the question whether it will return.

The injection of the polypus is impracticable. The forceps cannot remove the growth as completely as the snare, the wire of which can be nursed to the attachment of the growth to the turbinated bone, while the thickness of the bit of the forceps prevents this procedure.

I consider an operation with the forceps brutal and unsurgical.

I have operated for the last two years with the little instrument illustrated in Fig. 1, below.

It is a modification of Dr. Bosworth's snare, but it is much stronger and the wire is more easily fastened by the

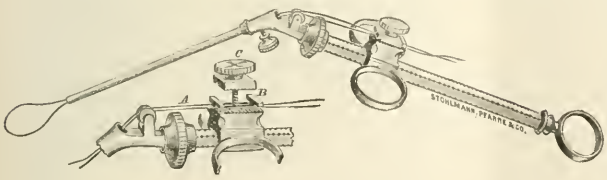

Fig. 1.

little clamp *C*, than by the pin attachment on the former snare. The wire, after passing through the cannula, runs over a small pulley *A*, and then through a fine slot *B*, and can be attached firmly to the instrument by lowering the screw *C*.

The instrument in my hands has effected most satisfactory results. I have no trouble in guiding the wire around the growths, and in most of my operations securing the root of the polypus.

This snare can also be used in posterior hypertrophies of the inferior turbinated bone. A curved attachment is also made, so that the wire can be carried to the vault of the pharynx in search of adenoid vegetation.

No matter how thorough the operation has been, a small pedicle is liable to be left somewhere embedded in the membrane of the turbinated bone, and if this is not destroyed it forms the root of future polypi.

Three or four years ago I treated the nose with a strong solution of chromic acid after I had thoroughly removed all the polypi in sight, so that the whole contour of the turbinated bones was visible, and the nasal cavity showed absolutely no nasal obstruction. Later I tried carbolic acid, tincture of iodine, and actual cautery, with the idea of destroying any pedicle that had escaped the wire. If the case had been operated upon previously by the forceps, the growths were sure to return and the operation of removal resorted to again.

The application of caustics or the actual cautery does not prevent the return of polypi. They only inflame the part to which they are applied, and tend, I think, to the formation of new-growths.

I have taken a case and removed thoroughly the growths from both sides of a nose. To one side I have applied a caustic, the other I have let pass without after-treatment. In watching this case I have found that the side I cauterized duplicated the growths more quickly than the side that had passed without treatment. I have tried this experiment in a number of cases, and the result is always the same.

Lately I have abandoned entirely the cauterizing after removal of polypi, as I think it causes inflammation and a quicker reproduction of the growth.

Before operating with the snare, I try first to put the parts under complete control of the cocaine, or, in other words, the parts must be thoroughly anæsthetized. I consider this a most important factor in the operation. First, as the cocaine empties the blood-vessels of the turbinated tissue and allows a more nearly perfect view of the growths; and second, because, when the part is under the influence of the drug, the hemorrhage is more perfectly controlled, and the irritation resulting from the introduction of the snare greatly diminished.

In looking at a nose filled with polypi, a concrete mass is the only object that can be seen. We are unable to distinguish one polypus from another, but with the aid of cocaine the mass seems to subdivide and each individual polypus is easily seen. Cocaine has thus greatly augmented the per cent. of permanent cures. I would never attempt to operate till the parts were entirely free from sensation. No pain should be felt during the operation, no matter how slight, as pain in this case is significant of irritation, and this we should studiously avoid if we aim at the permanent destruction of the tumors.

A case that has been operated upon previously by the forceps is more difficult to cure radically than a case that presents itself in a virgin state.

This clinical fact has been impressed upon me again and again, both in the Bellevue clinic and in private practice. The forceps seems to tear the growth away and to spread the roots, so that the polypus has a broader attachment and becomes more of a sessile growth, while a virgin polypus has a root as small as a thread, as shown in the illustration.

Fig. 2 represents the tumor at its present size, after being in alcohol for over two years. It hung between the soft palate and the pharynx, and was attached to the middle turbinated bone.

In a case previously operated upon by torsion, the attachment is much broader and the roots of the polypi more dispersed.

In removing these growths we should aim to produce as little irritation as possible, and after the operation the same condition of affairs should still be preserved.

Any irritation, in my mind, will lead to a recurrence of these growths. I have seen this so fully illustrated by the application of caustics and cautery, that I was led to abandon their use entirely after polypus operations, and seek for some other medication that would prevent tumors from reasserting themselves. I do not know how many astringents I have used with this aim in view. After a thorough trial of almost everything in the Pharmacopœia in the way of an astringent, I have abandoned all medication, with the exception of witch-hazel or the application of pure alcohol. To the former I give the preference.

Fig. 2.

After a thorough search for remaining polypi and their removal, I have the patient spray the nose night and morning with either of the above-mentioned drugs, diluted at the start with water and gradually increased to full strength, by means of a Burgess spray. The parts should be thoroughly moistened with the chosen drug, so that it floods the nasal fossa and runs into the lower pharynx.

This treatment should be persisted in steadily for at least a year after the last remaining polypus has been removed. The nose should be examined at stated intervals, and if there is a semblance of a polypus it should be removed.

I copy from my note-book a report of a few obstinate cases that have been treated with the cautery and caustics after the polypi have been thoroughly removed, and then afterward with the witch-hazel. With the cautery treatment the polypi returned, but with witch-hazel medication the return of the growth rarely occurs. I might add that most of my obstinate cases for the permanent destruction of these growths have previously been operated upon by forceps.

Case I.—M. C—— applied to me, complaining of polypi of the nose. She had been operated upon repeatedly, for this affection, by the forceps. The operations were very painful and attended with profuse hemorrhage. I removed fully three hundred polypi from her nose at various sittings. At the end of each series of sittings, the lumen of the nose was perfectly restored and the contour of the turbinated bones easily seen. At this time, as at the present time, cauterization after removal of polypi was the customary treatment.

In succession I tried chromic acid, glacial acetic, carbolic, tannic, actual cautery, and the tincture of iodine, and, in fact, any medication that would permanently prevent these growths from re-forming.

These astringents irritated the parts, and I found that the polypi returned more quickly when I was seeking to destroy them by that means than when I left after-treatment alone. Failure after failure with these agents led me to try a new drug. This case I treated, after removing the large number of polypi before mentioned, with the spray of witch-hazel, night and morning, and was surprised to see the return of the growths wonderfully diminished.

The patient has been free from these growths now more than a year.

Case II.—Female, had been operated upon repeatedly, by the forceps, by another practitioner. Acid was applied after the operation. The polypi quickly returned. I removed twenty polypi from this patient's nose, put her under the witch-hazel treatment, and the polypi have not since returned.

Case III.—Male, aged forty. Had polypi of the nose from the age of twenty. The nose had been "cleared" regularly every six months, and the caustic applied after each series of sittings. The patient was accustomed to go to a physician at these stated times to have the growths removed. After clearing his nose thoroughly of the offending bodies, I put him under the hamamelis spray. Eighteen months have passed without a return of the growths.

Case IV.—Mr. A—— applied to me for a diagnosis of his case. His nose had been stopped up for years. Acid had been injected into a few polypi, but the pain and time experienced in this mode of procedure led him to abandon treatment for a period. When he applied to me, I found his nose completely obstructed. I removed over a hundred polypi from the nasal fossa in a week. This was in June, 1888. I saw him again January, 1889, and removed six. In August he paid me another visit. I found one side of his nose perfectly free, the side I had not cauterized, while from the other I removed four polypi. I consider this an excellent report of a case where the operations followed in such quick succession, and so long a time elapsed between visits.

A thorough removal of polypi cannot be secured at one sitting, or at a few successive sittings. When we remove the lower strata of the growths, the one above drops down, and the nose may appear after a few operations to be the same as at the first one.

Time should be allowed for the polypi to descend, as the pedicle is more easily detached, the irritation less, and the hemorrhage much diminished. *Festina lente* is a good adage, in the removal of these growths, for a permanent cure.

I could cite case upon case where the polypi have returned after removal, with the after-treatment by caustics. The only remedy I have been able to secure to prevent their return has been either witch-hazel or some preparation of alcohol, as a local medication, after their total and thorough removal.

I do not claim that the injection of witch-hazel or alcohol into a nose filled with polypi, or one partially filled with the tumors, will extirpate them, but what I do maintain is, that for a perfect cure of the troublesome affection—1, the nose should be treated with the snare till each and every polypus has been removed; 2, that the after-treatment by caustics and cautery tends to inflame the cavity, and tends to the recurrence of these growths; 3, that in the removal of these tumors the parts should be so thoroughly anæsthetized that pain is unknown, because when pain is absent the part is under the full influence of cocaine, the blood-vessels are relieved of their congestion, the polypi are more easily distinguished, and the main object of the operation is secured, removal of the pedicle intact; 4, that the part should be sprayed thoroughly with either witch-hazel or alcohol, for some time after the patient has been pronounced free from all polypi; 5, that with this treatment the majority of cases can be permanently cured, and the rest greatly relieved.

112 West Forty-fifth Street.

Opium-Smoking in London.—Some startling facts are brought to light by a writer in a recent issue of the *Medical Press*, concerning the increase in the habit of smoking opium in London. A gentleman who had been told that this habit was growing, determined to make some inquiries himself. After some time he learned that application for information should be made to a certain well-known medical practitioner, living in the West End. The gentleman's wife wrote to this practitioner, asking information, and received in reply a copy of a pamphlet entitled, "Opium Smoking as a Therapeutic Power, according to the Latest Medical Authorities." The pamphlet describes in detail the method of preparing and smoking the opium, and recites the conditions which are said to be specially benefited by taking the drug in this form. The physician who is supposed to be the author of the pamphlet is himself a confirmed opium-smoker, and he seems to be actuated with a desire to drag others down to the level of his own degradation.

THE TREATMENT OF THE[1] ACUTELY INSANE IN GENERAL HOSPITALS.[1]

By W. P. SPRATLING, M.D.,

FIRST ASSISTANT PHYSICIAN NEW JERSEY STATE ASYLUM FOR THE INSANE, MEMBER OF THE NEW YORK MEDICO-LEGAL SOCIETY.

THIS is a question concerning the treatment of this especial class of the insane that has lately sprung into prominence, and one that bids fair to create a general and liberal discussion, as its nature warrants and justifies. In no branch of medicine, or in any of the allied sciences that tend to promote the universal welfare of a people, have such marked advances been made in recent years as in the study and treatment of psycopathic disorders, and the very suggestion of any new feature that will have a tendency to place round about the insane such environments or influences as will the better aid him to recovery, or make his life during the term of confinement less burdensome, will meet at once with a candid and wholesome discussion at the hands of those whose lives have been spent in endeavoring to ameliorate the condition of this unfortunate class. This question appeals alike to medical, scientific, and men of philanthropic ideas, for each one of these find in the insane man some especial interest, and something that claims the skill and sympathies of each.

The primary consideration of this question by those who form the foremost rank and file of able and humane alienists of to-day will doubtless engender but one reply; and it would be difficult to convince these, with any argument short of actual demonstration, that the acutely insane could be more successfully treated in general hospitals than in asylums as at present. On their part it would virtually be to disclaim the knowledge of insanity they had been acquiring all these years, and a renunciation of progressive ideas, practical reforms, and methods instituted by themselves. It would be to acknowledge themselves as "latter-day drones," so to speak, and, by their own assertions, unfit to work longer in this great field of labor. The present happy and increasing enlightenment, great or little as it may be, that dawns more clearly upon us each day, throwing here a gleam, and flashing there a ray of light upon some hitherto dark and mysterious problem, springing from the diseased human brain, and the care of the individual possessing it, is due to those who have studied this malady in all its phases in the many great asylums now existing, so nobly founded by public charity, and whose internal management is so ably and humanely administered through the light of increasing knowledge. To bring about such a change in the custodial care and treatment of those afflicted with the acute types of insanity, can only be done by the sanction, and with the authority, of the State's law-makers. Legislation on this subject should not be hastily enacted; for so radical a change, affecting, as it most assuredly would do, the character of all general hospitals into which insane cases might be admitted, and robbing existing asylums or hospitals for the insane of the very cases the State intended these institutions should receive, deserves a careful and extended consideration. At the January meeting of the New York Neurological Society of the present year, a committee, consisting of Dr. Frederick Peterson, Dr. Chas. L. Dana, and Dr. Ralph L. Parsons, was appointed to examine and report upon a revised code of lunacy laws, known as the Gallup Lunacy Bill. This bill, the year before, passed the New York Legislature, but failed to become a law on account of the Governor's opposition to it. Portions of this bill were favorably, and other portions unfavorably reported upon by the committee, and among other recommendations they made the following: "A clause should be introduced into the bill providing that nothing in the lunacy laws of the State shall be construed to interfere with the reception and treatment of acute cases of insanity in chartered general hospitals, in the same manner and under the same conditions as patients suffering from other diseases are there received and treated, provided such hospitals have suitable accommodations approved by the State Commission in Lunacy."

In the *New York Medical Journal* of February 22, 1890, appears an editorial in which is reviewed the work done by the committee appointed by the Society to examine into the merits and demerits of the Gallup Lunacy Bill, and the writer of this article, in referring to the clause advising the reception of the acutely insane into general hospitals, says: "In our opinion this is the most valuable portion of the committee's report, for it suggests a step forward in the line of a great reform." Then, at some length, the author comments upon the unsatisfactory form of treatment he assumes such cases to receive at the hands of those charged with this responsibility in our great asylums; and some of the criticisms embodied in this paper are unfair and unjust, being so clearly from the fact that the writer is evidently not well informed concerning the details of internal management that prevail in most of our State institutions of to-day. Moreover, it is not alone in this particular that a lack of information is evident, but when, as the writer of this article says: "The insane are no longer to be regarded in the light of insane criminals, and asylums are not always to bear the stigma of existing as a species of jail," he shows the fact that this idea, at one time prevalent, but long ago discarded as barbaric by all men who studied the true cause and character of a man's madness, is overlooked by him, and to-day, if there be a stigma affixed to any man's name who has ever been of unsound mind, it is by those who are untutored and ignorant regarding the inherent nature of this unfortunate malady.

The admission into general hospitals of cases of acute insanity cannot be done under the confident expectation of having them regain their reason in from "three weeks to three months," as the writer says. Very true, many acute cases, which at the outset appear extremely unlikely to recover, get well in three months, or in a shorter period of time. But just in proportion as this number of favorable cases, as regards an early recovery, will require admission, a yet larger number will be admitted whose acute attack will not terminate in a few weeks or months, but pass into a chronic hopeless one, and in the course of time, for many apparent reasons, their removal to a regular hospital for the insane becomes necessary. In the article above referred to, it is stated that upon admission into an asylum "a patient's personality is entirely lost in the horde of from six hundred to two thousand mad people among whom he is placed." It is true that some overcrowding in many of our hospitals for the insane exists to-day, but it has been unavoidable, chiefly on account of the great increase in the number of insane. The evils of confining too large a number of insane under one roof has been ably shown by American alienists in late years, and the magnificent institutions that are being built to-day upon that most excellent and scientific plan known as the cottage system, is actual proof of their wise recommendations.

But let us consider for a moment one of our ordinary State asylums, or hospitals for the insane, that has not many of the important improvements that institutions of a later growth enjoy; and let us go for a moment with a case of acute insanity, as he is sent from the reception-room to one of the hospital wards. Here he finds himself one of a number of from twenty-five to twenty-eight patients on a ward that, in point of size, could comfortably accommodate from thirty-five to forty. Here he can be provided with a single room, if it be deemed advisable. Here he is seen twice daily by an assistant physician, and the fact that he is on the hospital ward entitles him to the same physical treatment, as well as mental, that he might receive in any general hospital. In regard to the treatment or actual medication of the insane, the writer of this article, in speaking of acute cases in asy-

[1] Read before the New York Medico-Legal Society, May 14, 1890.

lums, says, "Does he disturb others? Then narcotize him. If that be impossible, put him into the pandemonium known as the back ward." If we have not in our asylums to-day all known means of quieting the maniacal frenzy common to madmen, if it be best for him and those around him, then surely there is no potent charm or conquering influence that can be used as so happy a benefactor in any general hospital. Another most important consideration in regard to this proposed new method should not escape notice, and that is the effect of the admission of such cases upon the public character of a general hospital and the local reputation it enjoys. It cannot be denied that general hospitals, through the ever increasing efficiency of the service they offer in caring for the bodily sick and injured, are coming daily into more popular favor, and a large number of such cases, by their own choice, are admitted into these hospitals for the purpose of being treated therein. Recognizing, then, the indisputable fact, that general hospitals are steadily increasing in public patronage, it is fair to assume that a knowledge by patients, who, be they the subjects of public charity, or paying individually for what they receive, are equally solicitous as to their surroundings, and of the fact that madmen were being cared for under the same roof as themselves, would have upon them an unsalutary effect. Public opinion on questions that have for their underlying principle the comfort and welfare of communities is an unmarketable article, and one that cannot be disposed of except in such a manner as will satisfy the greatest number entertaining such opinions. This very fact is undoubtedly responsible for the removal from the city of one of the best known and most thoroughly equipped asylums in this country.

Again, we find in this article the assertion that, if the acutely insane were admitted into general hospitals under the same conditions precisely as other patients are received, it would lead to a "vast improvement" in the early and efficient treatment of the nutritive disorder of brain. I must confess that I am unable to realize how the creation of this vast improvement is to be brought about, and what the method of its application is to be. A person sick in a crowded city, with even a physical disorder that has been created more from the monotonous routine of his form of business and social life, the ever-recurring daily scenes and the constant excitement of busy traffic, is advised by his physician to seek some secluded spot, some remote abiding place in the country or on the sea-shore, where nature can substitute the charm of her inspiring impressions upon his tired senses for those fatiguing scenes and confining occupations that have well-nigh made him a physical wreck. Why not let the unfortunate and penniless poor of the city who may fall a victim to some acute mental disorder be taken from such surroundings and placed out in the country in suitable homes provided for them, where wholesome winds blow and the noise of traffic is unheard. Concerning the reception-houses in New South Wales and Queensland, and of lunacy wards in Victoria for the treatment of insanity in ts early stages, nothing can at this experimental period of their existence be said in favor of such methods that would justify their adoption in this country. The construction of a psycopathic hospital that is about to occur in London is indeed a noble conception, and one embodying, as it will, every known scientific method and means that present knowledge can devise in the treatment of the insane, will doubtless bring incomparable good to all who must partake of the beneficent and scientific skill that is to be found within its walls. Yet at the head of the internal management of this hospital is to be placed a "resident medical officer of asylum experience," and with him he carries, as his chief qualification for this high office, the very knowledge of insanity previously acquired in asylums with which he must have been connected. For some time past an undercurrent opinion, generated in the minds of some of the most progressive and ablest psychologists in this country, has been in existence, in which the idea embodied is the abolition of the word asylum, as it is applied to places in which the insane are treated. In the third annual report of the St. Lawrence State Asylum for the Insane at Ogdensburg, N. Y.. Dr. P. M. Wise, the Superintendent, says: "I would further recommend at this time a change of the present title of the asylum to the St. Lawrence State Hospital, to accord with the higher function of the institution, as herein set forth. The patients in an institution are confronted with the name at all times, and it has an influence in creating impressions greater than is generally known." For suitable reasons he furthermore says: "Neither is it necessary to attach the word 'lunatic' or 'insane' to the title." The managers of that institution concurred with Dr. Wise in his opinion, and by an act of the Legislature recently the name was changed to the St. Lawrence State Hospital.

Dr. Edward Cowles, Superintendent of the McLean Asylum, near Boston, also refers to this subject in his last annual report. In speaking of a new building that is to be erected at Belmont for the inmates of McLean Asylum, he says, "It is not a new asylum we want; it is a new hospital."

Dr. G. Alder Blumer, Superintendent of the State Lunatic Asylum at Utica, N. Y., in his last annual report, writes at some length upon the "Hospital Idea," in the course of which he says: "In my last annual report I ventured the suggestion that a change of the name of our State Lunatic Asylum to State Hospital would be desirable, as better showing the character of the institution, and serving to impress upon the public the fact, so continuously ignored, of the physical basis of insanity, and all that that simple doctrine implies." Among all the desirable changes that present and future conceived enlightenment on the subject of insanity brings to us to-day, none seems of more vital importance than the abolition of the word asylum, and with it, if possible, its linked associates "lunatic" and "insane." These words, I doubt not, have in some instances, isolated though they be, been the Gibraltars upon which the feeble hope of some oversensitive minds, distorted by disease, have been dashed to their death. To me it seems a matter of most vital importance, for I believe it to constitute a rational and humane step forward in the line of a truly great reform. Worcester defines asylum as a "sanctuary, a place of refuge, a place of retreat and security; a shelter, originally applied to places in which criminals and debtors were secure from arrest." Webster defines asylum to be "a sanctuary; or place of refuge and protection, where criminals and debtors were secure from arrest; and from which they could not be taken without sacrilege. In later times Christian churches were regarded as asylums in the same sense. So sacred was the church to some that it had the right of an asylum or sanctuary." In the dark ages this might have been a suitable definition for a place in which those were confined who were thought to "be possessed of an evil spirit," but to-day science, coupled with liberal knowledge and truly humane ambition, should seek to abolish this misnomer, and not relax its efforts until it has accomplished its great aim.

In view of the foregoing, Mr. President, I beg to offer this resolution:

Whereas, Insanity is now generally conceded to be a physical disease, and, as such, a malady for medicinal treatment, as much so as inflammation or fever;

Resolved, That this Society commend the adoption of the term "hospital" in place of "asylum," for institutions having the care of the insane.

MORRIS PLAINS, May 20, 1890.

Beer should not be Drunk from Glasses, according to Dr. W. Schultze, who has discovered that they contain lead oxide, and that a small amount is dissolved by the CO_2 in the beer. This is one of the cases in which Dr. Schultze has saved at the spigot but leaked at the bung. There are things in beer which kill long before the lead.

Clinical Department.

A NORMAL ANUS WITH THE RECTUM ENDING IN A BLIND POUCH.

By F. F. C. DEMAREST, M.D.,
PASSAIC, N. J.

On May 28th I was called at night to attend Mrs. J——, a primipara, aged twenty-two, and delivered her, with forceps, of what seemed to be a perfectly normal male child, weighing nine pounds. The mother and child both did well. On one of my visits the nurse called my attention to the fact that the child's bowels had not moved. Upon a digital examination I was surprised to find that my finger, after passing through the anus, was in a cul-de-sac one inch in depth, which ended as a membranous partition below a closed rectal pouch. I at once determined upon a protoplastic operation, and with the very kind assistance of Drs. Terhune and Carroll, of this city, I was able to dissect down to the rectal pouch, and, bringing it down to the external sphincter, attach it there by interrupted sutures, and then remove the end of the gut.

After evacuating a large amount of meconium the parts were cleansed, the rectum plugged, and a gauze compress applied to the external wound. The little patient has suffered from no complications, and is now nursing and sleeping well, and performing his bladder and rectal functions normally.

CRANIAL COMPRESSION AS A FACTOR IN INFANTILE DISEASES.

By THOMAS S. BLAIR, M.D.,
CHAMBERSBURG, PA.

In perusing a volume upon midwifery, written in 1824, by Professor Wm. P. Dewees, I have been impressed by the author's cautious recommendation of the obstetric forceps as used to compress the fœtal head in cases of retarded delivery. I desire to direct attention to a passage from this volume, in connection with a case lately under my observation.

Dr. Dewees said: "It has been imagined, from the elongation which the head sometimes permits in long protracted labors that it would bear with impunity any compressing force which might be applied. . . . I must, then, to prevent the perpetuation of this error, as far as may be in my power, declare, that the head will bear with safety but a moderate diminution of its bulk by the compressing force of the forceps; and oftentimes, much less than is sometimes observed to take place, when the child has been delivered solely by the exertion of the natural powers." In Professor Theophilus Parvin's late work almost equally conservative statements are made. Authors who are specialists in obstetrics always direct attention to the immediate dangers to the child from the use of the forceps, while they are apt to overlook the remote ones observed in general practice.

Now for my case. Mrs. F——, a healthy American woman, was delivered of a male child by the use of the forceps in the hands of an experienced obstetrician, after labor had been vainly progressing for sixty hours. When the child was five months old I was called "to cure his spasms." I found the usual symptoms of inflammation of the brain, and noted a marked ridge over the coronal suture, and, on the right side of the head, the remains of an old scalp wound which the parents stated was due to a severe injury made by the forceps, and which was very slow in healing. The little patient gave evidence of great pain whenever this portion of the head was pressed upon, and strong pulsation could be detected at the fontanelles. Spasmodic action of the flexors of the left arm, and particularly of the left thumb, as also similar manifestations of the left facial muscles had been noted by the parents for months, and it was generally regarded as an indication that the child would be left-handed. They also stated that the child was rapidly losing flesh, vomited frequently, and seemed to suffer from severe attacks of headache. While under my care he had scores of clonic spasms, which differed much in severity but were invariably confined to his left side and obstinately resisted treatment. The pupil of the left eye was more or less constantly dilated, and there existed the alternating chills and high fever usual in septic infection. I was unable to definitely locate the position of the abscess, which I felt sure existed somewhere in the right hemisphere. Much to the surprise of the parents, I prognosed death in from four days to a week. The patient rapidly went into a semi-comatose condition, and the heart pulsations finally became too rapid and irregular to control with drugs, and he died in six days. Just as he expired a quantity of pus and serum broke through the ethmoid into the nasal cavity. I regret that a post-mortem was not permitted.

As is well known, the various neuroses, and particularly abscesses in the brain, may for a long while have scarcely any symptoms, and this is particularly true of those insidious and ill-defined abscesses developing after apparently insignificant injuries of the head. Were the matter carefully looked into, I believe that cranial compression in cases of forceps delivery would be found to exercise a greater part in the etiology of various diseases in infants than is usually attributed to it. At all events, a wise conservatism should control us whenever we are prompted to use the forceps to compress the fœtal head.

EARLY MATERNITY.

Dr. T. B. Nichols, of Plattsburg, N. Y., writes: "In a woodchopper's shanty, in the winter of 1855, dwelt two brothers, French Canadians, whose wives, also French Canadians, were sisters. That winter was not half passed when the writer was called to attend the youngest one in childbirth. The labor was normal and of short duration. The child was a plump six-pounder, and healthy in every respect. As the doctor was gathering up his hat and things to leave, the brother-in-law asked, 'Say, doctor, how old do you think that little mother is?' 'I should say about fifteen years.' 'No, sir,' said he, 'she is not thirteen yet.' And I can add that among that class of people in those days early maternity was not an uncommon occurrence."

Right-sided Hemiglossitis.—Dr. Joseph Leidy, Jr., reports the following case of this interesting affection in the *University Medical Magazine* for May, 1890: I. M——, aged twenty-eight; single; born in Poland. Five days before admission had a slight chill, with fever. He soon after noticed his tongue was slightly swollen upon the right side, which rapidly increased, until the organ protruded from the mouth, and interfered with deglutition and respiration. On admission to hospital he had a temperature of 101⅘° F.; pulse, 86; respiration, 24. His lips were slightly cyanosed, his expression was anxious, and he complained of some pain on pressure. The tip of the tongue protruded toward the affected, or right, side. The swelling was limited entirely by the median line, extending backward to the root. The organ was slightly coated, and saliva flowed constantly from the mouth. As there was no point indicating the presence of pus, and his symptoms were not markedly urgent, a mercurial purge was administered, with a wash of borax for the mouth, and his condition was carefully watched. The swelling rapidly diminished, so much so that by the next morning he could close his mouth perfectly, and a week afterward the act of swallowing was but slightly impaired, all the swelling had disappeared except for some slight induration at the root of the organ, somewhat painful upon deep pressure. This, however, rapidly subsided, and the patient soon felt so much better that he insisted upon leaving the house. Ten days after his admission his temperature was normal and his tongue clean, but when protruded the tip still pointed slightly to the affected side.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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INGERSOLL ON VIVISECTION.

COLONEL INGERSOLL'S large capacities for unbelief have taken in the practice of vivisection, which he recently places in the same category with Moses and the Prophets. In a letter to a Boston gentleman the distinguished rhetorician calls vivisectionists "scientific assassins;" he asserts that human sympathy and sense of justice are higher than all discoveries and inventions; furthermore, Colonel Ingersoll, though agnostic, knows as follows:

"I know that good for the human race can never be accomplished by torture. I also know that all that has been ascertained by vivisection could have been done by the dissection of the dead, or, at least, of animals completely and perfectly under the merciful influence of ether. I know that all the torture has been useless. All the agony inflicted has simply hardened the hearts of the criminals without enlightening their minds."

The Colonel adds: "Never can I be the friend of one who vivisects his fellow-creatures. I do not wish to touch his hand. When the angel of pity is driven from the heart, when the fountain of tears is dry, the soul becomes a serpent crawling in the dust of the desert."

This sounds well, although as a matter of fact serpents do not crawl in deserts; but ignoring this slight concession of the truths of natural history to the demands of oratory, the eloquent writer continues:

"The wretches who commit these infamous crimes pretend that they are working for the good of man, that they are actuated by philanthropy, and that their pity for the sufferings of the human race drives out all pity for the animals. They slowly torture them to death, but those who are incapable of pitying animals are, as a matter of fact, incapable of pitying men."

Now, if the "fur" be removed from all this entrancing rhetoric, we find it amounts simply to the statement that vivisectionists are all "criminals," "assassins," and "torturers," and that their work has been utterly valueless to humanity. Or, if anything has been achieved, it might have been done in other ways.

This plain condensation of Colonel Ingersoll's long argument shows how densely and inexcusably ignorant of the whole question the new apostle of the anti-vivisectionists is.

It would be interesting, in the cause of history and ethics, to compile a list of Ingersoll's "assassins, criminals, and torturers," so called. Chief among them, doubtless, would be William Harvey, who was, to be sure, thought in his day to have been a modest, kind, and generous man, but who begins his work announcing his great discovery, "Ex vivorum dissectione, qualis sit cordis notus." Among the "torturers" and "assassins" of the last century would be Galvani, Haller, and John Hunter. The nineteenth century list would include the heretofore renowned names of Sir Charles Bell, Marshall Hall, Magendie, Bernard, and later of a dozen great men, with each of whom no taint of viciousness or personal cruelty has heretofore ever been associated. One can fancy Mr. Ingersoll refusing to shake hands with the late Professor Dalton, or the happily still living Weir Mitchell, because these amiable gentlemen were so depraved in character!

As for the question whether vivisection has been the means of securing great and useful advances in knowledge, it is settled beyond all doubt or peradventure. We have repeatedly been over the recorded list of practical discoveries. They are accessible to everyone, and, considering this fact, it is worse than ignorance, it is a culpable knavery, which puts forth such utterly false statements as those of Ingersoll's.

Mr. Ingersoll says "I know," but he does not know about what he writes. He has been at pains to tell the world why he is an agnostic. We can help to the solution. It is because he does not inform himself, as other and more conscientious people can and do.

The discovery of the circulation of the blood, of the functions of the spinal nerve, of the action of galvanic currents, of the localization of brain functions, the use of the ligature, the discovery of the bacterial causation of disease and the modes of prevention, the methods of inoculations against rabies and anthrax, the improvement in surgical methods, the action of many important drugs have been learned through vivisection.

Mr. Ingersoll's specialties are, we believe, law and religion.

"Ne sutor ultra crepidam."

THE SORE-THROAT OF SCARLET FEVER.

MM. BOURGER AND WURTZ, of Paris, have recently made interesting investigations regarding the nature of the pseudo-diphtheritic angina of scarlet fever. The cases were observed in the Hôpital Trousseau, where a number of children were suffering from scarlet fever with severe diphtheritic angina. A bacteriological examination of the membranes showed in all the cases the presence of the streptococcus pyogenes, either alone or associated with other microbes of suppuration. In two cases only did they find, late in the disease, the specific bacillus of diphtheria, *i.e.*, the bacillus of Löffler.

The patients were in three instances infected from the diphtheric wards.

The authors conclude that in the great majority of cases the scarlatinous angina is not of a diphtheritic nature.

The Massachusetts Medical Society held its 109th annual meeting in Boston on June 10th and 11th. The annual dinner took place on June 11th, under the chairmanship of Dr. Joseph Stedman, and was a most enjoyable affair. Dr. A. L. Loomis responded to the toast complimentary to New York

News of the Week.

The Manhattan Hospital.—There has recently been trouble at the Manhattan General Hospital over the hospital rules, the Board of Managers insisting that they be obeyed to the letter. To this the two senior members of the house staff objected, especially as one of the rules provided that the house surgeon should tell the superintendent where he was going when he went out. This resulted in the house surgeon and his senior assistant sending in their resignations, to take effect at once. For the last two weeks the junior assistant has been doing the entire work alone. The trouble was settled at the meeting of the managers a short time ago, when the old rules were given up entirely, and the rules of the New York Hospital adopted. A house surgeon will be employed, at a salary of $50.00 per month, to serve till November 1st next.

Tickets of Membership to the Berlin Congress.—We have received several communications from gentlemen who state that they forwarded their fee for membership in the Congress, but failed to receive the ticket. It was announced that all who sent five dollars to Dr. Bartels would receive their ticket and a programme of the meeting two months or so in advance of the opening of the Congress, and it was urged that this be done in order to avoid the crowd in Berlin. The sole reply to the advance of five dollars has been a postal card receipt, which must be presented in Berlin before the ticket can be obtained. We fail to see the advantage gained by those who have sent their entrance fee in advance. They have had the trouble of forwarding the money, and must still elbow their way through the crowd in Berlin in order to obtain their tickets. It is a small matter, but the managers of the Congress ought not to make promises unless they intend to keep them.

How to Get Lodgings at Berlin.—A special committee has been formed which will furnish all desired information as to lodgings, etc., to the foreign visitors in Berlin. Inquiries should be addressed to the office of the Congress, 19 Karlstrasse, Berlin, N. W., the envelope being marked on the outside "Wohnungsangelegenheit."

Decline of the Small-pox at Milan.—The *Gazetta Medica Lombarda* of recent date reports that the epidemic of small-pox, which has been prevailing during the past fall and winter at Milan, is now practically at an end. Nevertheless, the work of vaccination and revaccination proceeds, and the vaccination committee announces that it is in a position to meet all demands for vaccine material by return of post. The committee states that its stores of vaccine were replenished three times in the course of 1889, by material obtained from outbreaks of cow-pox in calves at Locate-Triulzi, in the province of Milan, in the public slaughter-house of the city of Milan, and at Cosio, in the district of Valtellina.

Bernhardt and the Dose of Chloral.—A telegram states that Sarah Bernhardt nearly killed herself recently by taking an overdose of "chloral." The overdose was 120 grains, which is really not a very dangerous dose to an adult, and especially to one accustomed to its use. A dose much above 120 grains, however, becomes most serious, and 150 grains taken at once is usually fatal. It is somewhat curious that Bernhardt should have taken exactly the maximum safe dose, and that the amount should be so carefully stated. If the dose had been much less people would not have been interested; if it had been much more she would not have been believed. Bernhardt is a great artist.

The Orange County (N. Y.) Medical Society held its annual meeting in Goshen on Tuesday, June 3d. The following officers were chosen for the ensuing year: *President*, Dr. Arthur Pell, of Goshen; *Vice-President*, Dr. W. L. Cuddeback, of Port Jervis; *Secretary*, Dr. B. Pillsbury, of Middletown; *Treasurer*, Dr. H. H. Robinson, of Goshen.

The Census Questions.—The Pennsylvania State Board of Health has issued a circular urging upon physicians the desirability of filling out the blanks sent them from the division of vital statistics. Dr. Lee, Secretary of the Board, states that the Superintendent of the Census guarantees that all information furnished on the schedules will be considered and treated as strictly confidential, no names being published. We fail to see how such an assurance can affect the ethical side of the question. The attempt to collect the statistics desired will fail in its object, and ought never to have been made.

The Oregon State Medical Society held its seventeenth annual meeting on June 10th, 11th, and 12th, at Portland, Ore. The Portland physicians gave a banquet to the visiting doctors from other portions of the State. The meeting was very successful, and the following officers elected for the ensuing year: *President*, Dr. G. M. Wells, of Portland; *Vice-President*, Dr. W. E. Rinehart, of the Dalles; *Secretary* and *Treasurer*, Dr. C. C. Strong, of Portland; Dr. Canthorn was elected a member of the Executive Board.

St. John's Guild.—The summer trips of the Floating Hospital will begin early in July, and will be continued four days each week, if sufficient funds be contributed. The managers appeal to the public for a generous support of their undertaking, in order that as many children as possible may receive the benefits of the Floating Hospital and Sea-side Hospital. Checks may be sent to Charles Schwacofer, Treasurer, 21 University Place.

Complaints against the Steam-Heating Company.—Inspectors from the Board of Health are investigating the causes of the several explosions of the pipes of the New York Steam-Heating Company which have occurred lately. The company has been complained of as a common nuisance, and detrimental to life and health.

Jack, the Ink Slinger.—A curious form of monomania has appeared in the city here recently. A quiet and apparently respectable married man developed a fondness for throwing ink on women's dresses, particularly on pretty dresses. He would follow his victim along the street and when a favorable opportunity arrived throw the ink, which was concealed in a pipe, upon the dress. More than fifty cases of spoiled dresses were reported before the man was discovered. He was promptly condemned to six months in the penitentiary. He is a monomaniac.

A New Hospital in Nashville.—Bishop Rademacher has purchased the building formerly occupied by the Nashville City Hospital, and will make extensive additions before reopening it. When the repairs are completed the hospital will be placed under the care of Catholic Sisters. This makes the third church hospital established recently in Nashville.

The Rhode Island Medical Society held its 79th annual meeting in Providence on June 11th. The election of officers for the ensuing year resulted as follows: *President*, Dr. John W. Mitchell; *First Vice-President*, Dr. William H. Palmer; *Second Vice-President*, Dr. Robert F. Noyes; *Recording Secretary*, Dr. William R. White; *Corresponding Secretary*, Dr. George D. Hersey; *Treasurer*, Dr. George L. Collins.

A Home for Nurses.—A movement is on foot in Brooklyn to erect a house to serve as a home and hospital for the trained nurses of the city. It is intended to be self-supporting, as is the nurses' house in Boston, which is under the auspices of the Guild of St. Barnabas for nurses.

The Delaware State Medical Society began its second century on June 13th, at its 101st annual meeting in Wilmington. The election of officers resulted in the choice of the following: *President*, Dr. Joshua A. Ellegood, of Laurel, Sussex county; *Vice-President*, Dr. Ezekiel Cooper, of Camden, Kent county; *Secretary*, Dr. W. C. Pierce, of Wilmington; *Treasurer*, Dr. Joseph H. Chandler, of Centreville.

Guarding against Yellow Fever.—The Norwegian steamship Adria, from Boca del Toro, with fruit, arrived at the New Orleans quarantine station on June 21st. Her cargo of bananas was removed to barges and the vessel fumigated and sent to the lower quarantine station. The health authorities report that the steward of the Adria died while *en route* to the Passes and was buried at sea, and one of her crew is ill with fever, a suspicious case, but not yet pronounced yellow fever.

St. Joseph's Hospital, Hamilton, Ontario, was formally opened on June 11th. It is under the care of the Sisters of St. Joseph, but any patient admitted to it may select his own physician, as well as his spiritual adviser if he should desire one.

Fire in a Hospital.—Mercy Hospital, in Davenport, Ia., was partially destroyed by fire on June 11th. One of the Sisters was lost in the flames. The damage to the building and its contents will amount to about ten thousand dollars, which is nearly covered by insurance.

The Cholera in Spain.—Fewer cases of cholera have been reported in Rugat during the past week, but the disease has spread to a number of other villages in the province of Valencia. The baggage of all travellers arriving in Madrid from the infected district is disinfected before being delivered to its owners, and Morocco has established a quarantine of five days on all vessels arriving from Spanish ports on the Mediterranean. Portugal also quarantines all vessels arriving from ports in the infected district, and the Italian government has urged upon the health officers the need of a rigorous examination of all arrivals from the Spanish coast.

The Maine Medical Association held its annual meeting in Portland, on June 10th, 11th, and 12th. The following officers were elected: *President*, Dr. S. B. Hunter, of Machias; *First Vice-President*, Dr. B. B. Foster, of Portland; *Second Vice-President*, Dr. F. L. Dixon, of Lewiston; *Corresponding Secretary*, Dr. O. W. Stone, of Camden.

Reinstating the Religious in France.—The French radicals have made an extensive trial of lay nurses in the hospitals of Paris, and have been forced to admit, much against their will, that the change was not for the better. Now the process of restoring the Sisters has begun, and at a recent meeting of the Paris Municipal Council a proposal for the reinstatement of the Sisters of Mercy in the municipal hospitals was carried by 41 out of 61 votes.

The Canadian Medical Association.—The next meeting of the Canadian Medical Association will be held in Toronto, Tuesday, Wednesday, and Thursday, September 9th, 10th, and 11th. The Committee of Arrangements appointed at the last meeting at Banff has been largely increased in numbers and is now thoroughly organized under the chairmanship of Dr. Canniff. There were at first differences of opinion as to the best time for holding the meeting, but after careful consideration it was unanimously resolved to hold it early in the first week of the Toronto Industrial Exhibition.

Dr. James Murphy, of San Francisco, died in that city on June 7th, hepatic disease being the cause of his death. He was born in Ireland, and was graduated in medicine from the Pacific Medical College in 1862. He leaves a wife and three children.

A Sponge in the Abdomen.—In one of the Milwaukee hospitals an abdominal section was performed early in this month. After the sutures were all in place and the wound was dressed, one of the nurses called attention to the fact that a sponge was missing. Thorough search was made without success, and it was not until the abdomen was reopened that the sponge was found. The patient recovered. A similar accident occurred in the same city about three years ago, the subject being a sailor who had been shot in the abdomen. He was taken to the hospital and the intestinal wounds were closed. He died, however, and at the post-mortem examination a sponge was found in the abdomen. The man could not have recovered in any case, and the sponge could not be held accountable for his death.

Moderate Charges.—A physician of San Francisco recently sent in his bill to the estate of a rich but penurious man who had died under his care. He charged for his visits at the rate of $100 each, and the total amount of the bill was over $3,500. As the physician had some distance to go to see his patient the charges would not seem to be absurdly high, but the public administrator nevertheless cut down the amount to $1,100, and will resist in the courts the payment of any sum above this.

Dr. Helen L. Webster, of Lynn, who has recently been lecturing at Bernard College, and who has been called to a chair at Vassar, is one of the three women in America who have received the degree of Ph.D., "summa cum laude," from the University of Zurich.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

RETENTION OF URINE CAUSED BY A HYDATID CYST—THE TREATMENT OF PHTHISIS BY THE INHALATION OF SUPER-HEATED AIR—THE GRIEVANCES OF HOSPITAL NURSES—THE GENERAL MEDICAL COUNCIL.

LONDON, May 30, 1890.

At the last meeting of the Clinical Society, Dr. Fairbank read an account of a case of retention of urine in which a hydatid cyst in the pelvis was found to be the cause of the condition. The patient was a man aged sixty-five, who had suffered from repeated attacks of retention, and on whom at last a catheter could not be passed. A trocar was passed *per rectum* into what was supposed to be the bladder, when four ounces of opaline fluid escaped. It was then found possible to pass a catheter *per vias naturales*, and about a quart of dark-colored urine was drawn off. A second cyst, under the abdominal wall in the left iliac region, was aspirated and proved to be a hydatid. Six months later, the patient passed with his urine several hydatid cysts; four of these were examined and were as large as ordinary walnuts partially collapsed. The patient had been examined lately (after ten years), and there were no signs of either the iliac cyst or of that between the bladder and the rectum.

Mr. W. H. Bennett remarked that cases of this kind were rare, though hydatid cyst was often mentioned as one of the causes of retention of urine. A patient of his own—a man aged fifty—had apparently a distended bladder which, however, was not reduced in size by catheterization. He, therefore, punctured *per rectum*, and withdrew three pints of hydatid fluid, sp. gr. 1.006. The cyst did not shrivel, so he laid it open from the rectum and drained it for a week; it discharged for six months, but could not be felt now. Mr. Bennett remarked that in one recorded case death had been determined by pressure on the ureters, and in another the cyst ruptured into the rectum.

Among the other papers read at the same meeting of the Society was one by Mr. H. H. Taylor, on the treatment of phthisis by the inhalation of super-heated air. Only four cases thus treated had been under his observation, two of them being cases in which there was laryngeal as well as pulmonary phthisis. In all the results were negative. The inhalation of air at 300° F. apparently caused no inconvenience; neither the temperature, pulse, nor respiration was affected, nor did the skin act more freely. Two cases of pulmonary cavities, which had been tapped and drained, were made use of in order to determine, so far as possible, whether the heated air extended beyond the bronchi. The communication between the air-tubes and the cavities was, in each case, very free, but after the inhalation of air at 300° F. a thermometer placed in the cavity only rose one degree in one case, and in the other case no rise of temperature whatever took place.

Attention has been lately directed in a lay journal to the onerous conditions under which nurses work, and especially those in hospitals. At a time when the "labor question" is receiving a great deal of attention, and on all sides the cry rises to reduce the number of working hours in every occupation, it is surprising that nurses have not previously found someone ready to champion their grievances. But little notice has apparently been given to the matter, even in medical circles. Yet this lack of interest cannot be excused by reason of the subject being unimportant. It appears that hospital nurses often work about fourteen hours a day. Rising about six, they are frequently on duty till about ten at night—only about two hours of this time being allowed for meals and open-air exercise. During a large proportion of this time they are either standing or walking about. As a consequence, flat-foot has been found to be unduly common in hospital nurses—an observation confirmed by inquiries from bootmakers in the immediate neighborhood of some of our large hospitals. During their long hours of duty, hospital nurses undergo considerable fatigue—both of body and mind—and, as a result, it is very common for them to deteriorate in physique. An unpleasant consideration in connection with hospital nursing is the fact that, in many hospitals the laborious services of the nurses are utilized to produce a pecuniary profit for the institution they serve. Thus, in some cases, probationers are admitted on payment of certain fees, and serve for perhaps a year without any wages. At some hospitals the probationers are very numerous, and only a small proportion of them can afterward obtain paid employment at the hospital at which they have been trained. Many of the large hospitals in London, also, now send out nurses to private patients at highly remunerative rates. The payments made by such patients, however, go to swell the hospital exchequer, the nurses simply receiving a small annual salary, together with their uniform and board and lodging in the hospital when not employed on private cases. A nursing institution in connection with a large hospital is, in fact, a valuable source of revenue to the hospital, as was lately admitted before the House of Lords Select Committee by a representative of one of the largest general hospitals. Similar arrangements are in vogue for paying the nurses at most of the private nursing institutions. In almost all of these the nurses are paid a very small annual salary, quite disproportionate to their earnings, and even where nurses are paid by the work they do, I have heard of from twenty-five to forty per cent. being deducted as a commission for the institution through which they obtain employment. It is, however, rather anomalous to find the methods adopted in private enterprises, avowedly established for the purpose of producing a livelihood to their owners, extended to public charities which are supported by voluntary contributions, and in aid of which it seems hardly fair to make nurses contribute their labor at ridiculously low rates.

During the past week the General Medical Council have been meeting—as is usual at this season of the year Perhaps the most important of their achievements on the present occasion is their adoption of the recommendation of their Education Committee, "that the course of professional study after registration should occupy at least five years, on condition that the fifth year should be devoted entirely to clinical work." The last is evidently a most important proviso, and it is not surprising to learn that, with this safeguard against the imposition of additional lectures on students, the propositions should have been unanimously accepted by the Council.

OUR PARIS LETTER.

THE CAUSE OF DIABETES—VISCERAL SURGERY—EXTIRPATION OF GALL-BLADDER—MASSAGE.

PARIS, May 23, 1890.

PROFESSOR LÉPINE, of Lyons, has enunciated a new idea, that diabetes is due to a deficiency of the diastasic ferment in the blood. He has demonstrated that the blood of a diabetic dog contains this ferment in much less quantity than the blood of a healthy dog. In a note that he has published on the subject, he announced that diastasis injected at a dose of one gramme under the skin of a dog diminished glycœmia, and, when injected at the same dose under the skin of a diabetic man, it considerably diminishes the glycosuria. This latter fact would appear to prove that the deficiency of the diastasic ferment is the real cause of diabetes. The following was the result obtained in his patient: Before injection, sugar, 35 grammes per litre; four hours after, 17 grammes per litre; six hours after (urine scanty), 4 grammes per litre; about twelve hours after, 14 grammes per litre. The author observes that, theoretically, the treatment of diabetes appears to be discovered. It remains to be determined

what the practical means are which would supply the deficiency of ferment, as the subcutaneous injection of ferment is an exceptional means, and which might perhaps cause accidents.

Medicine and surgery have certainly made great advances within the last few years, but surgery has made gigantic strides. Operations are now performed on the human body which no surgeon would have attempted only ten years ago. Thanks to anæsthetics and to antisepsis, operations are performed on the viscera with almost perfect impunity. At a recent meeting of the Academy of Medicine cases were related of a series of gastrotomy, laparotomy, hysterectomy, and nephrectomy that were performed by different surgeons. I have now to describe a rare operation recently performed by Dr. Bouilly, consisting of the extirpation by the Cæsarean section of an intra-uterine fibroma, which he related at the meeting of the Société de Chirurgie of April 30th last. The subject operated on was a woman, forty-two years of age, who never had a child, and who was affected since six years with metrorrhagia symptomatic of a fibroma. This tumor was developed not only into the abdominal cavity but into the vagina. The uterus was of the size of a gravid uterus of five months. In the vagina the existence of an enormous mass was discovered. The hysterometer disappeared entirely in the uterine cavity, and was withdrawn with facility. As regards an operation, it would have been impossible to remove the tumor piecemeal by the vagina, owing to its size and the loss of blood it would have caused. Abdominal hysterectomy would have been dangerous for the same reasons. Dr. Bouilly then decided upon extracting the fibroma by the Cæsarean operation, median laparotomy, displacement of the uterine mass, and fixing to the base of this mass a thick thread of india-rubber. The uterus was incised on its median line, being guided by the hysterometer. The fibromatous mass was free to a great extent, and it was detached very rapidly. The uterine tissue was very thin at its base of implantation, which presented a surface about the size of the palm of the hand. The upper portion of the tumor was removed by the uterine wound, for the lower portion the surgeon was obliged to divide a sort of isthmus which corresponded to the uterine neck. Immediately afterward the uterine tissue retracted and became about the size of a man's fist. The divers coats were then separately sutured, after having washed the uterine cavity with a solution of corrosive sublimate. Sixteen points of suture were applied, and the uterus was replaced in the abdominal cavity. Vaginal tampons were applied, and at the end of three weeks the cure was complete. This operation, concluded the author, may be performed only in certain cases, it represents the end of a work of enucleation commenced by nature. It had already been executed by certain surgeons, such as Martin, of Berlin, Doleris and Terrier, of Paris.

Dr. Terrier related a case of total extirpation of the gall-bladder which he had performed on a woman who presented, after some attacks of hepatic colic, a tumor situated on the inferior surface of the liver with induration. There was no jaundice. Cholecystitis was diagnosed and ablation of the vesicle was proceeded with. Laparotomy on the edge of the external rectus muscle, the adhesions which connected the bladder to the knuckles of intestine were separated, then an opening was practised which gave issue to a sero-sanguinolent liquid. In the bladder were a certain number of biliary stones, some of which were enclosed in the cystic duct. Attempts at extirpation were not pushed to any length for fear of rupturing the tissues, which were very friable. The extirpation of the vesicle gave rise to only slight hemorrhage. The edges of the abdominal wound were sutured to the tissues which surrounded the divided cystic duct in such a manner as to isolate the great peritoneal cavity from that of the cut extremity. A drainage-tube was placed in this small cavity and union was effected. The next day the patient was inundated with bile, which escaped through the drain. The supposition is that the pedicle, which was too much tightened, had ruptured. The fistula closed rapidly and the patient is considered to be cured.

Dr. Lucas-Championnière has just brought out a work which is a *résumé* of communications that he had made to the Société de Chirurgie on the applications of massage and mobilization in the treatment of fractures. The following is the therapeutic formula laid down by the author. The treatment the most efficacious of fractures is massage, it must be applied whenever it is possible to do so. The applications of massage may be divided into four classes: 1. Immediate and continued massage. This may be employed in fractures susceptible of slight secondary displacement, or where the displacement interferes but little with the functions of the bone, such as fractures of the radius or of the fibula, fractures occupying the neighborhood of joints, partial fractures of the elbow, fractures of the neck of the humerus, certain fractures of the condyles of the femur, and fractures above the ankles. 2. Massage before the limb is put into an apparatus, applicable to fractures of the wrist with great mobility, fractures above the ankles, fractures of the superior extremity of the humerus, and to the most mobile fractures. 3. The apparatus once placed is removed after two or three days, then methodical massage is practised, the apparatus is replaced, and is removed each day. 4. Immobility is necessary during some days, at the end of which time the union is sufficient to have the apparatus removed and massage practised The manœuvres of massage comprise three orders, viz., movements of exploration, movements of massage properly speaking, movements produced in the neighboring joints. The author concludes with a statement that he had obtained the following results: Rapid disappearance of the pain, the almost immediate re-establishment of the function of the limb, and the disappearance of the swelling, and the extreme rapidity of the formation of the callus. This is a novel method of treating fractures, but as Dr. Lucas-Championnière speaks of it in the most favorable terms, it is certainly worthy of a trial.

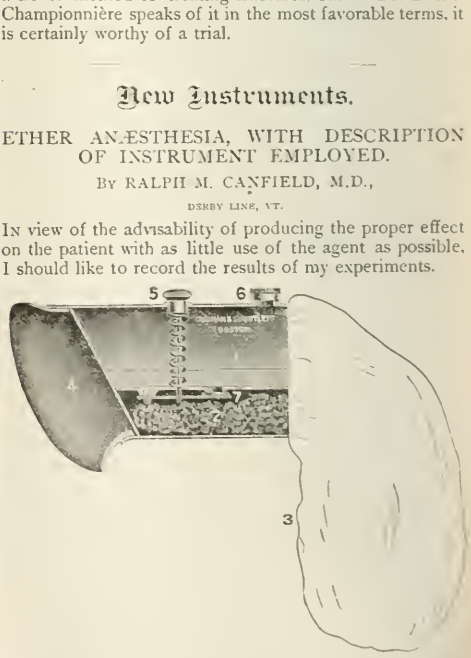
New Instruments.

ETHER ANÆSTHESIA, WITH DESCRIPTION OF INSTRUMENT EMPLOYED.

By RALPH M. CANFIELD, M.D.,

DERBY LINE, VT.

In view of the advisability of producing the proper effect on the patient with as little use of the agent as possible, I should like to record the results of my experiments.



Sometime since, being aware that the greater amount of ether used at operations was wasted, I was led to devise an instrument which should save this loss, and at the

same time, as it turns out, produce a more even anæsthesia, a very important point in delicate operations.

I will first describe my instrument and afterward give my experiments with it.

It consists of an ether-can holding one-half pound, with an inhaler attachment, as shown in the preceding cut.

1 shows the ether chamber, which is filled through the screw-button 6; 2 shows vapor-chamber with sponge intact; 3 is a cotton-bag wet with water to render it almost impervious to air and ether vapor, into and out of which respiration takes place; 4 is a rubber hood fitting over mouth and nose.

The ether is dropped on the sponge from the valve 7, operated by means of the presser-button 5 at will. The ether can thus be used drop by drop if so desired, saving all not actually absorbed in the lungs.

According to actual experiments, only one-tenth of the ether taken in an inspiration of the ordinary length is consumed, the rest is expired again, and in most cases lost.

This result was obtained by attaching a collapsed bag to a graduated pipette filled with ether at 0° Cent. and carefully warming till the bag was filled with vapor. An ordinary inspiration of the vapor was then taken and expired again into the bag at the usual velocity. The bag was then cooled to 0° again, and the condensed ether allowed to enter the pipette, when nine-tenths of that vaporized was found to be present.

The question naturally arises, as respiration is continued into and out of a closed chamber, whether the exhaled carbonic acid gas would collect in quantities to be injurious or not. Whatever theory may claim, the fact is, in practice it does not, and I think the explanation is, first, that the wet bag and sponge partially absorb the amount given off, and second, that the leakage around the face and through unclosed pores in the bag allows its escape.

Apart from the saving of expense in ether, which, as will be readily seen, is no small item, the fact that it is no longer necessary to literally saturate anæsthetist, operator, and all other parties near the operation, will, I think, be thoroughly appreciated.

The point of the advisability of producing anæsthesia as *quickly* as possible seems fairly defined, and as the oxygen in the ether ($C_4H_{10}O$) renders it without air life-supporting, the almost total exclusion of the latter is advisable. After the first choking sensation passes away, no further air is needed until complete anæsthesia is produced. I have many times produced complete anæsthesia in adults with two drachms, and hardly ever use more than four drachms. Continual anæsthesia can be procured in the average patient with about two ounces per hour.

Nearly all the struggling can be done away with by placing the inhaler on the face before allowing any ether to escape on the sponge, and giving a few breaths of pure air to allay fear. Then a few drops will quiet the first spasms, after which matters may be pushed as fast as possible.

An important feature is that by tightening the presser-button (5) the exit of ether is perfectly controlled by a velvet cork packing, and the whole awaits in readiness our need at a moment's warning.

The bag (3) folds and packs into the vapor chamber (2), so that our ether-can, with inhaler attachment only, occupies the space of about a Squibb's half-pound ether-can.

Almost all inhalers have been found to become cold, unless artificial heat is applied, and therefore useless when used for a long operation; but so little ether is used by this instrument that the latent heat required is very small, and the lungs of the patient furnish ample.

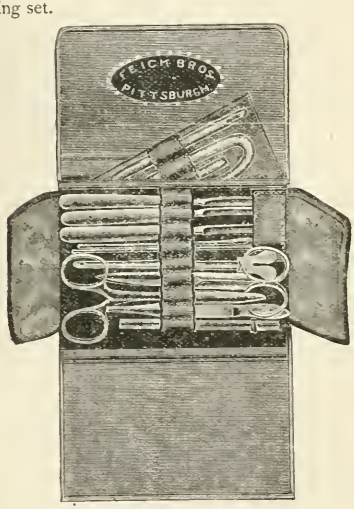
Since beginning the use of this instrument I have been troubled much less with the after vomiting and other usual sequelæ than formerly, and patients seem to rally much quicker. I have attributed these advantages to the small amount of ether used.

The instrument is manufactured by Messrs. Codman & Shurtleff, 13 and 15 Tremont Street, Boston, Mass., from whom it may be obtained.

A NEW ASEPTIC POCKET SURGICAL CASE

By I. P. KLINGENSMITH, M.D., F.S.S. LONDON,
BLAIRSVILLE, PA.,
SURGEON PENNSYLVANIA RAILROAD; MEMBER AMERICAN MEDICAL ASSOCIATION; MEMBER BRITISH MEDICAL ASSOCIATION; ETC.

NOTWITHSTANDING the fact that during the past year several valuable articles on the subject of pocket operating cases have appeared in your columns, we would nevertheless present for the consideration of your readers one which, in our surgical experience of fifteen years in railroad injuries and private practice, to our mind embodies all that asepsis, necessity, and utility demand. No man who practises surgery would for a moment think of relying upon a pocket-case when called to a case of injury of any magnitude, but would have recourse to his general operating set.



The following instruments are contained in this case: One narrow-bladed scalpel; one straight probe-pointed bistoury; one curved sharp-pointed bistoury; one pair dissecting forceps; one pair scissors (French lock); one hæmostatic forceps (Collini lock); two silver probes, one of them with eye; one director and tongue-tie; one silver porte-caustique; one soft rubber catheter, medium size; needles, silk, and catgut.

The case is made of morocco and lined throughout with leather, having no silk velvet upon which dirt or particles of dust can adhere; and is 5½ inches long, 3½ inches wide, and one-half inch thick; therefore is very compact and readily adapts itself to the coat pocket without bulging. In the leather-lined pocket, needles, silk, and catgut, folded in Lister's oil-silk protective or rubber tissue, are conveniently carried, together with a leather card having loops for the soft rubber catheter. The knives are made of one piece of steel, and all instruments are highly polished and nickel plated, having no roughened surfaces whatever. With perfectly aseptic instruments and bichloride of mercury tablets—which we take for granted are carried by everyone who makes any pretension to modern surgery—we are enabled to dispense with any form of metallic case, and we abandon the rather impracticable idea of attempting to carry silk and catgut in antiseptic solutions in a pocket-case. One great objection to pocket-case instruments, generally, is their small size and frailty, but the instruments contained in this case are of good size and admirably adapted to all practical purposes.

Dr. Francis Delafield, of New York, delivered the address in medicine at the Yale Commencement on Tuesday, June 24th.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 15 to June 21, 1890.

HORTON, SAMUEL M., Major and Surgeon. By direction of the Secretary of War, will visit the encampment of the Maine Volunteer Militia, at Augusta, Me., during the period of its encampment, June 30 to July 4, 1890, inclusive, for the purpose of instructing the medical department thereof in its duties in camp, and on completion of this duty will return to his proper station. S. O. 143, par. 5, A. G. O., Washington, D. C., June 19, 1890.

BYRNE, CHARLES B., Captain and Assistant Surgeon. By direction of the Secretary of War, is granted leave of absence for two months, to take effect July 1, 1890. Par. 13, S. O. 141, Headquarters of the Army, A. G. O., June 17, 1890.

GRAY, WILLIAM W., Captain and Assistant Surgeon. By direction of the Secretary of War, is granted leave of absence for four months, to take effect upon the final abandonment of Fort Maginnis, Mont. Par. 14, S. O. 141, Headquarters of the Army, A. G. O., June 17, 1890.

SWIFT, EUGENE F., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, relieved from duty at Fort Spokane, Wash., and to report in person to the commanding officer, Fort McDowell, Ariz., for duty at that station, relieving Captain Marlborough C. Wyeth, Assistant Surgeon. Also, to report by letter upon arrival at his new station, to the department commander. Par. 10, S. O. 140, A. G. O., June 16, 1890.

WYETH, MARLBOROUGH C., Captain and Assistant Surgeon. By direction of the Secretary of War, on being relieved from duty at Fort McDowell, Ariz., to proceed to Fort McIntosh, Tex., and report in person to the commanding officer thereof for duty at that station. Also, to report by letter, upon arrival at his new station, to the department commander. Par. 10, S. O. 140, A. G. O., June 16, 1890.

OWEN, WILLIAM O., JR., Captain and Assistant Surgeon. By direction of the Secretary of War, granted leave of absence for six months, to take effect when, in the opinion of his department commander, his services can be spared. Par. 12, S. O. 139, A. G. O., June 14, 1890.

APPEL, AARON H., Captain and Assistant Surgeon, Fort D. A. Russell, Wyo. Granted leave of absence for one month, to take effect on or about June 15, 1890, with permission to apply through Headquarters Division of the Missouri for an extension of one month. Par. 4, S. O. 42, Headquarters Department of the Platte, Omaha, Neb., June 10, 1890.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 21, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	6	3
Scarlet fever	41	11
Cerebro-spinal meningitis	0	1
Measles	341	10
Diphtheria	107	29
Small-pox	0	0
Varicella	18	0
Pertussis	1	8

A Doctor's Mistake Leads to a Wedding.—A strange case is reported from Iowa. A young woman living near Davenport, the daughter of a well-to-do farmer, was quite a belle and much sought after by the swains in the neighborhood. But there was one young man who was evidently the favorite, and though there was no actual engagement between them, it was generally understood that there would be one before long. Finally, however, the girl's mother noticed an increase in her size which led her to suspect that all was not as it should be. She charged the girl with having sustained improper relations with her admirer, but the imputation was indignantly denied. It was renewed again and again, till, though the girl continued to protest her innocence, her parents were forced by overwhelming evidence to believe that she had been deceived, and that she was attempting to deceive them. By way of setting the matter at rest the advice of the family physician was had. He confirmed the worst fears of the parents, and the latter then insisted upon the marriage of the couple, although the man denied any wrong-doing as emphatically as did the girl herself. As the months rolled by after the wedding and no change occurred in the daughter's condition, the parents began to think that possibly they had been a little hasty in their desire to preserve their child's reputation. Another examination was made, and it was learned that the poor woman had been unjustly accused by her parents, the trouble being due to the presence of a tumor and not to that of a child. An operation was performed, and now the interested parties do not know whether to accept the marriage as a fact or to have it annulled. Doctors' mistakes are sometimes more serious in their results than this was.

The Dangers of Dirty Streets.—In the last report of the New Jersey State Board of Health, Dr. Hunt devotes considerable space to the subject of the relation of clean streets to the health of cities. The care of the streets, he says, leads not only to the greater comfort of the citizens, but also concerns their health. He urges the necessity of good pavements and thorough drainage, and adds the following sensible advice concerning street cleaning: "Much of the surface cleansing of streets should be done at night, and even the sidewalks should not be swept in the face of those passing. Besides the discomfort, it is not appreciated what damage to health occurs from city dust. It is made up of dirty mud, of droppings of various kinds and of various forms of decayable matter. This in a finely triturated state mingles with the air and has to go into the lungs and stomachs of the people. A very dusty city is always more unhealthy. Water sprinkling in hot days, or when there is much dust, is much the choice of two evils; but if this has to be carried to the excess of causing undue moisture, it, too, becomes an evil. We desire to emphasize the injuriousness of city dust and to claim its abatement as a nuisance which interferes with the health not less than the comfort of the people."

Anonymous Communications. — We have received lately several communications from correspondents who neglected to send at the same time their names. It seems strange that it should be necessary at this late day to repeat the warning that no communication will receive attention unless it is accompanied by the writer's name and address. The name, of course, will not be published if the writer so request, but it must accompany the communication in all cases if the latter is to receive any notice.

A New Kind of Circumcision.—During the discussion of an address by Dr. Joseph Hoffman before the Alumni Association of the Medical Department of the Niagara University, at Buffalo, recently, it was suggested by Dr. Wilder, of Ithaca, that, in view of the dangers to which human beings are exposed from inflammation of the vermiform appendix, it be extirpated by aseptic laparotomy soon after the birth of the child.

Late Child-bearing.—Dr. E. F. Parsons, of Thompsonville, Conn., reports the case of a lady who was married at the age of fifty years, and gave birth to a female child after she was fifty-one years old.

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